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Literature on the job-hunting and the work records of young persons in school and during their initial period of adjustment to full-time membership in the labor force is reviewed and evaluated. While this suggests an analysis of the labor market experiences of 14 to 24 year olds, most of the literature to be surveyed deals with a more narrowly defined age group, 14-19 or 16-19. In summarizing what is known, it is anticipated that aspects of the employment, unemployment, and labor force participation of teenagers requiring additional research will be identified. This study typifies the teenage labor force member as being enrolled in school, and seeking part-year and/or part-time work which will yield some income and some work experience. The claims on his time and energy generally do not permit him to seriously compete for jobs on a promotion ladder. Considerably more information is needed concerning the absolute and relative advantages of significant investment in job counseling services, in placing increased emphasis on vocational education, or in establishing youth placement bureaus closely allied to the school. (CH)

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The Youth Labor Market

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No. 12

Edward Kalachek

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The University of Michigan
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THE YOUTH LABOR MARKET

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INTRODUCTION

This paper is designed to review and evaluate the existing literature on the employment, unemployment, and labor force participation of teenagers and other young workers; to summarize what is now known; and to identify areas where additional research is needed and feasible.[1] The literature to be reviewed is sparse. Psychologists, sociologists, and social workers have found youth an irresistible research area; not so, economists. Traditionally, economic analysis of the labor force experiences of younger workers was conducted mainly as a collateral part of broader studies of the supply and demand for labor.

During the past decade, interest has begun to stir as the labor market experiences of younger persons have been elevated to the level of a social problem. The name of the problem is unemployment. Teenagers have always been more susceptible to unemployment than adults. During the 1950's, however, the already high teenage unemployment rate began to rise relative to that of other age groups. This deterioration was particularly marked among Negroes. The unemployment rate for Negro teenagers, particularly girls, rose to an almost unbelievably high level. Even in 1966 and 1967, when economic slack had been largely eliminated and labor markets were quite tight, teenage unemployment remained above the level of earlier prosperity periods. In 1967, persons aged 16-19 accounted for 8.5 percent of the labor force but for 28 percent of unemployment.

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[1] This paper is concerned with the job hunting and work records of young persons while in school and during their initial period of adjustment to full-time membership in the labor force. This suggests an analysis of the labor market experiences of 14-24 year olds, but most of the literature to be surveyed deals with a more narrowly defined group, 14-19 or 16-19 year olds.

In a society increasingly concerned with target unemployment rates and with the tradeoffs between unemployment and price level change, it has become important to know why young workers account for such a high proportion of total joblessness. In a society increasingly concerned with eliminating poverty, it has become important to know the impact of early labor market experience on current family income and on the development of adult skills and work attitudes. There are three questions of primary concern. Why is unemployment so high among younger workers even under the best of circumstances? Why has it risen so sharply during the past decade? How efficiently does the labor market function in transforming novices into productive and flexible adult labor?

The first question is the most readily answered. The normally high level of teenage unemployment is due primarily to the fact that so many teenagers are labor market entrants or re-entrants rather than to their deficiency or instability as employees. Teenage job hunters do not appear to experience greater difficulties in finding employment than do adult job hunters. Unemployment is higher among teenagers than among adults, because the proportion of job hunters is also higher. The adverse labor market experience of any specific cohort of teenagers is thus not predictive of subsequent difficulty in adult life. Rather, within a decade or less, the high unemployment rates of the teenage years are replaced by exceedingly low unemployment rates, reflecting school departure, the acquisition of a full-time job, and maturation. To emphasize that frequent labor market entry or re-entry is the major explanation for high teenage unemployment is not to rule out the possibility that low levels of motivation, insistence on unrealistically high wages,[2] or the inadequacy of

[2] Labor market folklore is replete with tales of teenagers who are inadequately motivated or who insist on unrealistically high wages. However, the relative prevalence of such attitudes and their quantitative contribution to teenage unemployment has never been

current labor market institutions may also play a contributory role.

A number of different explanations have been advanced for the rise in teenage unemployment. Some have suggested that underlying structural changes have permanently reduced the employability of younger workers: for instance, that successive increases in the minimum wage and the expansion of its coverage have resulted in a sizeable number of teenagers being unable to find jobs because their productivity does not warrant payment of the legal minimum; or that advancing technology is reducing employment opportunities for workers with minimal education or experience; or that traditional "entry jobs" are being eliminated and the creation of new "entry activities" inhibited and, as a result, less educated youths are being condemned to long sieges of unemployment. Others have suggested that the aggravation of teenage unemployment is only a temporary phenomenon. The arrival at adolescence of the baby boom generation has greatly increased the supply of teenage labor, and time is required for the market to fully absorb this increment.

A review of the literature indicates that the teenage labor market is highly, though not perfectly, flexible and is closely interrelated with the adult labor market. Further, there is no evidence that the employability of teenagers has been impaired by increased minimum wages or by technical change.

explored. It is certainly true that the incentives and compulsions for labor market participation are markedly different among teenagers than among adults. Unlike most adult men, the average younger person has nonwork-related sources of income, activities which are socially acceptable alternatives to work, and adequate access to companionship during periods of idleness. Unlike married women, teenagers from many social backgrounds cannot permanently or semi-permanently withdraw from the labor market if their reservation conditions on employment are not satisfied. Possibly, then, many teenagers remain in the labor force but only to engage in the listless and uninspired type of job search which leads to unnecessary unemployment. Similarly, the singularly adverse experiences of dropouts and Negro youths may reflect reservation wages derived from the signs of affluence around them rather than from a realistic appraisal of their own capabilities. The presence of nonwork-related sources of income may make possible the perpetuation of these reservations for an inordinately long period of time.

There are teenagers and teenagers. Some teenagers are clearly capable of competing for jobs with adults at going wage rates or wage rate differentials and manage to obtain employment regardless of the overall tightness of the labor market. Others are less fortunately situated, and apparently relative wages do not adjust so as to fully compensate for their disadvantages. Consequently, teenagers are disproportionately concentrated at the back of the hiring queue, where they find employment only as supplies of available adult labor are depleted. The existence of this queue cannot be attributed to minimum wage legislation. The relationship between the minimum wage and teenage employment and unemployment has been extensively examined, using both time series and cross-sectional data, without the discovery of any adverse impacts. Similarly, higher teenage unemployment cannot be attributed to the elimination of "entry jobs." Younger workers display a limited industrial versatility and are mainly employed in a limited number of activities. Still, teenage-adult coefficients of production are anything but rigidly fixed in teenage intensive activities. Teenagers hold only a modest proportion of the jobs in these activities, and appear able to secure a significantly higher proportion in those communities where such activities are underrepresented. The employment of teenagers might well be higher if the occupational composition of employment were the same today as it was in the early part of the century, particularly if large numbers of teenagers still had the option of performing unpaid labor on family-owned farms. It is difficult, however, to maintain that the changing composition of the demand for labor is adversely affecting teenage employment when such employment has increased by 1.9 million or 50 percent during the past decade.

On the basis of all the available evidence, higher teenage unemployment must be attributed to substantial increases in the supply of teenage labor and to very important changes in its quality. Between 1953 and 1957, the population aged 16-19 increased by 700,000 or 8 percent; between 1957 and 1960, by 1.4 million or 15 percent; between 1960 and 1964, by two million or 19 percent; and between 1964 and 1966, by 1.4 million or 11 percent—with the increase slackening greatly in

1967. In 1953, 16-19 year olds accounted for 7.7 percent of the working age population; by 1967, this percentage had risen to 10.5. These additional teenagers were all school attenders, available only for part-time or part-year jobs. Youths, who in earlier periods would have entered the labor market on a full-time basis in their mid-teens, were now likely to enter and re-enter several times during their school careers, each time running the risk of exposure to unemployment.

Although the teenage population will continue to expand, its peak rate of growth has passed. In 1967, persons aged 16-19 accounted for 10.5 percent of the noninstitutional population. In 1970, they will account for 10.6 percent; in 1975, for 10.7; and in 1980, for 10.1. Between 1958 and 1967, there was a significant substitution of teenage for adult labor as the teenage share of total employment rose from 5.7 to 7.6 percent. Such substitution will not be necessary in the future if we are to maintain the current teenage-adult unemployment and labor force participation ratios. It is only necessary that employment opportunities grow as rapidly for teenagers as for adults. To reduce teenage unemployment to the levels prevailing in the early 1950's, teenage employment would have to grow more rapidly than adult employment, but the difference in rates would be considerably smaller than during the past decade. Although job competition from the growing number of persons in their early twenties or increased labor force participation by women may cause problems, the stabilization of the teenage-adult population ratio offers substantial hope for a reduction in teenage unemployment.

✓ The third major question deals with the efficiency of the labor market in transforming novices into productive and flexible adult labor. One of the major criteria for evaluating the initial labor market experiences of teenagers should be the impact of these experiences on subsequent adult performance. However, the literature leaves this crucial relationship almost totally unprobed. Is the fact that many teenagers experience unemployment when entering or re-entering the labor force necessarily a sign of labor market inefficiency? Teenage unemployment may be an inexpensive school in which proper techniques of job-search and the need to adjust the heart's desire to the realities of the market place are taught, or it may be a poor and demoralizing school. Are high, voluntary job turnover rates a useful means for obtaining experience and skill and for probing alternatives so as to form a realistic view of career opportunities, or are they a highly expensive substitute for a good counseling program? Do the part-time and part-year work experiences of students simply keep them off the streats and generate some spending money, or do they also provide highly desirable training in work discipline and in the manners and social customs involved in work relationships?

We are equally at a loss in interpreting the experience of disadvantaged groups. High school dropouts initially have appreciably higher unemployment rates and appreciably lower labor force participation rates than do graduates. When employed, they earn lower wages. Over a lifespan, the graduate continues to perform in a superior fashion. However, the dropout's labor market record during the teens does not demonstrate that jobs are unavailable for those without high school diplomas. The mere passage of time tends to improve greatly his probability of being employed. Why the large initial difference in experience and the subsequent narrowing? The problem of the Negro teenager is even more mystifying. Discrimination and a lower quantity and quality of education may explain why unemployment is higher among Negro than among white teenagers, but it hardly explains the perceptibly widened gap in performance between the two groups during the postwar period.

Why is our knowledge on these important subjects so sparse? Largely because our knowledge is almost all obtained from moment-of-time observations. Moment-of-time statistics are inherently incapable of adequately portraying the process of transition from school to work. A series of longitudinal studies following the experience of a broad sample of young persons from the time they reach working age into at least the mid-twenties is badly needed. Such studies would permit the construction of work histories for white and Negro youngsters, for graduates and dropouts. They would enable us to sketch the transition from school to work styles of various subgroups of teenagers and to identify facilitating and detrimental experiences.

The paper which follows discusses in sequence the demand for labor, labor force participation, unemployment, and the rise in unemployment among younger workers. It concludes with a pinpointing of areas where current knowledge is most inadequate and where there seems to be promising scope for future research.

1

THE DEMAND FOR TEENAGE LABOR

In this section, we will explore the determinants of the demand for teenage labor and attempt to discover whether institutional factors permit the establishment of a wage which will clear the labor market. Age, limited education, and inexperience preclude most teenagers from jobs which involve prolonged prior training or the exercise of authority or great responsibility. In jobs which both teenagers and adults could fill, teenagers frequently are at some disadvantage. Since young workers have less experience than adults, their productivity in many jobs will tend to be lower. Since young workers desire shorter job tenure, their nonwage costs of employment will be higher. In consequence, most employers, if required to pay adults and teenagers the same wages, will prefer to hire adults. Starting from these almost universally accepted generalizations, it is possible to derive a number of hypotheses on the determination of the demand for teenage labor and on the flexibility of wages. The basic importance of the issues justifies an elaboration of three such hypotheses: the hypothesis of a flexible labor market, of a queue, and of teenagers as separate and non-versatile factors of production.

Let us begin with the flexible labor market hypothesis. Assume, that although teenagers frequently are low-quality or high-nonwage-cost employees, they are still actual or potential substitutes for adults on a significant proportion of jobs.[3]

[3] There are some jobs in which teenagers are not likely to be regarded as substitutes for adults, regardless of wage differences. For example, if negligence or failure to appear can result in losses

Teenagers will be hired, however, only if they are willing to accept lower wages than adults. At some relative wage, teenagers and adults will be equally attractive in the eyes of employers. So long as relative wages are assumed to be flexible, the impact of supply and demand changes on teenage employment can be determined in a straightforward fashion. An increase in the teenage share of total population will tend to result in a lowering of the teenage-adult wage ratio and in subsequent product and factor market substitution in favor of teenagers. The total share of employment accounted for by teenagers will rise. This rise will be proportionately smaller than the increase in population, so long as the teenage labor supply is positively related to the real wage. An increase in the demand for final product will increase the demand for all labor, including teenage labor. Shifts in the composition of demand adverse to teenage intensive products will result in a lowering of teenage wages, employment, and labor force participation, with the reverse holding true for favorable shifts.

It might seem that the prolonged persistence of teenage unemployment at what appears to be higher than frictional levels in recent years contradicts this picture of the labor market. This persistence, however, may be due simply to a lengthy and continuing adjustment process. As the population of teenagers increases, time is required for relative wages to alter and for the appropriate consumer and employer reactions to occur. Since the teenage population has been continuously increasing, the abnormal concentration of unemployment among teenagers could persist for some time.

The queue hypothesis assumes existence of market impediments which may prevent teenage wages from falling sufficiently to fully offset lower productivity or higher nonwage costs. Downward flexibility in teenage wages can be

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which run into multiples of the annual wage, and if employers view teenagers as being much more likely to err than adults, it may not be possible to find a positive teenage wage sufficiently low to compensate unless losses can be fully bonded. However, since teenagers constitute less than nine percent of the labor force, it is not necessary that they be capable of substituting for adults in all or even most jobs.

inhibited by unions or by legal or social sanctions. In many manufacturing industries, labor unions negotiate relatively high wages for the unskilled workers at the bottom of the job hierarchy. The result may be hiring standards sufficiently high that teenagers are foreclosed from competing. Federal and state minimum wage laws establish a floor under money wages. Employment opportunities for teenagers may be particularly vulnerable to such legislation, judging by the low starting wages earned by many teenagers. In 1966, for instance, median full-time earnings were $2,420 for teenage boys and $2,827 for teenage girls (approximately $48-$55 a week) as compared with $6,955 for all full-time male and $4,026 for all full-time female workers. The influence of unions and of legislation in establishing a wage floor can be reinforced by the development of community attitudes on what constitutes an acceptable wage in the corporate and government sector. Reder calls this the *social minimum* and argues that it is not lightly breached by private or government decision makers.[4] If so, whenever there is significant unemployment and the supply of adult and teenage labor is relatively elastic at the going wage, employers will prefer to hire adults. Teenagers will then be inordinately concentrated among the ranks of the unemployed. As full employment is approached, employers will find it increasingly expensive to insist upon adult workers, as this insistence will involve enduring vacancies, increasing recruitment expenditures, paying overtime, or bidding up wages. It will become increasingly profitable to lower hiring standards, and the proportion of teenagers employed will rise as full employment is approached. Increases in the overall demand for labor will then favorably affect teenage employment, at least after some critical threshold is passed. An increase in the teenage share of the population will also increase the teenage share of employment, but again only after supplies of higher quality adult labor have been depleted.

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[4] M. W. Reder, "The Theory of Occupational Wage Differentials," *The American Economic Review,* (December 1955), and "Wage Structure and Structural Unemployment," *Review of Economic Studies,* Vol. XXXI, No. 4.

Virtually everyone has his initial labor market experience, and many complete the transition from school to full-time work during the teenage years. The differences between teenagers and adults are not nearly so marked when it comes to other characteristics. In fact, teenagers are a remarkably heterogeneous group; youths, 14-17 and 18-19 years old, are marked by quite different labor market characteristics and frequently compete for jobs under quite different circumstances. Some teenagers are seeking part-time or part-year jobs, but a significant proportion are full-time labor force members. High school graduates have an effective educational attainment greater than the average worker, while dropouts and younger school attenders are below average. Some teenagers have had relatively little or no work experience while others have had at least several years. With respect to important worker attributes, many teenagers are more similar to adults—to middle-aged women or younger and older men—than they are to other teenagers.

Both the flexible labor market and the queue hypotheses can be easily amended to take account of heterogeneity. The queue hypothesis can be restated in the following fashion. Some teenagers may have specific productivity which warrants a wage rate considerably above the statutory or social minimum wage, one which permits competition with adults on an equal or near equal basis. Others may not. The teenagers at the back of the queue obtain jobs only as full employment is approached, and alternative sources of labor become scarcer. Those further forward are less dependent on high rates of employment. Consider an increase in total population and in the teenage share, which leaves unchanged the relative proportions of high and low quality teenagers. Since quits, retirements, and discharges for cause ensure a continuous flow of new job vacancies, some of the additional teenagers at the front of the queue will in due course of time automatically obtain employment. Teenagers constitute a higher proportion of job hunters, and hence, there is a higher probability that any new hire will be a teenager. Other teenagers who are somewhere forward in the queue, but who are nonetheless somewhat inferior to adults or whose employment involves high nonwage costs, will obtain employment by accepting lower relative wages than those hitherto earned by teenagers.

The separate and nonversatile factor of production hypothesis portrays the differences between the work qualities of teenagers and adults as being quite large, and the possibilities for compensation through wage adjustment as being quite small.[5] Quality differences between teenagers and adults may be so large that they are better described as differences of kind rather than of degree. The work attributes of teenagers may be sufficiently differentiated to warrant classifying them as a separate and nonversatile productive factor.[6] This factor can be treated as having a value productivity below the minimum wage in most pursuits. Assume, in addition, that in those activities where productivity is above the minimum, opportunities for substituting teenage for adult labor may be quite limited. Increases or decreases in employment opportunities for teenagers will then depend, given the level of technology, almost exclusively on changes in demand for teenage intensive products. Table 1 shows the occupational distribution of employment among teenagers. Younger and older teenagers, of both sexes, clearly possess different types of comparative advantage and tend to find jobs in different activities. Still, their occupational and industrial concentration is quite different from adults. If the activities employing teenagers expand, so will teenage employment. If they do not, then neither will teenage employment.

Even if the notion that there are fixed coefficients between younger and older and between less and more experienced

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[5] A model such as this must underlie predictions of teenage employment opportunities derived by the application of rigid relative labor coefficients to an estimated future bill of goods. See, for example, U.S. Department of Labor, Bureau of Labor Statistics, "Industrial and Occupational Manpower Requirements," in Howard R. Bowen and Garth L. Mangum, *Automation and Economic Progress*, and Eleanor G. Gilpatrick, *Structural Unemployment and Aggregate Demand*, pp. 189-190.

[6] If so, teenage employment opportunities are quite vulnerable to biased technical change. It is sometimes maintained that teenagers acquire their initial employment and sufficient experience to qualify them for subsequent employment in "entry jobs," and that these "entry jobs" are being abolished by technical change. (For further discussion, see the section on growth of unemployment.)

TABLE 1

Distribution of Employment by Major Occupations for the United States, 1960

	Total Work Force	Males Ages 18-19	Males Ages 14-17	Females Ages 18-19	Females Ages 14-17
	(percentage distribution)				
Professional and technical workers	11.6	3.4	1.0	6.2	2.5
Managers and officials	8.7	1.2	.5	.5	.3
Clerical workers	15.0	11.5	6.5	49.7	20.5
Sales workers	7.5	7.7	19.3	7.7	17.1
Craftsmen and foremen	14.0	10.0	3.8	.5	.4
Operatives	19.2	26.6	15.2	9.4	5.9
Private household workers	2.8	.2	.8	5.5	21.7
Service workers	8.8	8.4	11.0	11.8	17.6
Nonfarm laborers	5.0	14.5	17.5	.6	1.0
Farm laborers	2.3	9.1	16.2	1.0	3.5
Occupation not reported	5.1	7.4	8.3	7.1	9.6
Total[a]	100.0	100.0	100.0	100.0	100.0

[a] Components may not sum exactly to total due to rounding.

Source: U. S. Department of Commerce, Bureau of the Census, *Census of Population: 1960*, Vol. 1.

workers is dismissed as being fanciful[7], one would still expect the occupational and industrial structure to have an important impact on teenage employment. The comparative advantage, and hence, the position in the queue of teenagers, is likely to vary considerably from activity to activity. When the structure of activity is unfavorable, teenage employment will be lower under less than full employment conditions, because more teenagers will be toward the back of the queue. At full employment, teenage employment will also be lower, because some teenagers, who would have had high productivity if teenage intensive activities were important, may have such low productivity in other activities that employers would find it more profitable to endure vacancies or to bid up the wages of adults rather than to hire teenagers. In addition, the lower relative wages which teenagers can earn, given an adverse structure of activity, will induce a lower labor force participation rate.

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[7] Technological considerations and the composition of demand for final product may result in an upper limit on the number of jobs available to teenagers, but this fact may be of minimal importance if we are nowhere near that upper limit. Teenagers account for less than nine percent of the labor force and, even in teenage intensive industries, account for only a minor fraction of total employment. Some adults and teenagers perform exactly the same work functions, a fact immediately apparent to the customers of many retail and entertainment establishments. Thus, there presently exists at least some opportunity for increasing teenage employment by substituting teenage for adult workers in these teenage intensive activities.

Empirical Studies

How readily can teenage labor be substituted for adult labor? To what extent does this depend on the occupational and industrial composition of the demand for labor? Do minimum wage laws or other restrictions on wage flexibility result in the existence of a hiring queue and in the concentration of many teenagers toward its rear? Recent studies by Dernburg and Strand, Kalachek, Tella, and Thurow[8] provide a considerable amount of relevant information on these subjects. We will proceed by briefly describing the purpose and approach of each study and then will analyze the findings.

Dernburg and Strand explained the ratio of teenage employment to total population for boys and girls separately for the period November 1952-December 1962, using as independent variables the ratio of total employment to total population, the reciprocal of population, and the ratio of teenage to total population.[9] Kalachek worked with four separate teenage groups—boys, 14-17; girls, 14-17; boys, 18-19; and girls, 18-19. He explained the teenage proportion of total employment in 75 major standard metropolitan statistical areas (SMSA's) in 1960. The major independent variables were the population ratio, the unemployment rate, minimum wage dummies, a measure of wage flexibility, and various measures of occupational and industrial structure. Tella worked with seasonally adjusted quarterly data for the period 1947 (Q_4)-1965 (Q_1). He explained the proportion of the teenage population employed or in the Armed Forces on the basis of the proportion of the total population employed or in the Armed Forces and a time trend. Thurow worked with seasonally adjusted quarterly data for the period 1954 through the second quarter of 1966. Teenage employment was explained on the basis of adult employment, the adult unemployment rate, the ratio of the teenage to the adult labor force, a time trend, and the ratio of the federal minimum wage to average hourly earnings.[10]

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[8] Thomas Dernburg and Kenneth Strand, "Hidden Unemployment, 1953-62: A Quantitative Analysis by Age and Sex," *American Economic Review*, (March 1966); Edward Kalachek, "Determinants of Teen Age Employment," *The Journal of Human Resources*, Winter, 1969; Alfred Tella, "Hidden Unemployment 1953-62—A Quantitative Analysis by Age and Sex: Comment," *American Economic Review*, (December 1966); and Lester C. Thurow, "Employment Gains and the Determinants of Occupational Distribution of Negroes," paper presented to a conference on The Education and Training of Racial Minorities, The University of Wisconsin, May 12, 1967. The papers by Dernburg and Strand, Tella, and Thurow deal with the employment experiences of a number of labor force groups. Only the sections relevant to teenagers are discussed here.

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[9] Dernburg and Strand's results are as follows, with the standard error shown in parentheses:

For males, ages 14-19,

$$\left(\frac{Ei}{P}\right)_t = -.0971 + \underset{(.0086)}{.1214\left(\frac{E}{P}\right)_t} + \underset{(680)}{3210\left(\frac{1}{P}\right)_t} + \underset{(.0538)}{.4551\left(\frac{Pi}{P}\right)_t} \quad R^2 = .68$$

For females, ages 14-19,

$$\left(\frac{Ei}{P}\right)_t = -.0652 + \underset{(.00[illegible]}{.0838\left(\frac{E}{P}\right)_t} = \underset{(650)}{1460\left(\frac{1}{P}\right)_t} + \underset{(.0547)}{.3806\left(\frac{Pi}{P}\right)_t} \quad R_2 = .70$$

Where Ei is the relevant teenage employment, E is total employment, Pi is the relevant teenage population, P is total population, and the subscript t is time. *Op. cit.*, pp. 75-78.

[10] Thurow's results, with employment measured in thousands and the other independent variables in percentages and with the standard

Responsiveness to Labor Supply

The relative availability of teenage and adult labor can be measured either by the relative size of the respective labor forces or by the relative size of the respective populations. Thurow uses a labor force measure; Dernburg, Strand, and Kalachek use a population measure. Each approach had drawbacks. Since the teenage and adult labor forces show different degrees of responsiveness to the availability of employment, the measured labor forces may give a distorted picture of actual availabilities. On the other hand, if the population ratio is used in time-series analysis, it is necessary to control for secular changes in labor force participation rates.

Thurow's labor force coefficient implies that the market adjusts well—indeed, precisely—to changes in relative availabilities. The ratio of the teenage to the adult labor force rose from a low of 7.6 percent in the first quarter of 1955 to a high of 11.3 percent in the second quarter of 1966. The increasing teenage labor force share was matched by commensurate changes in employment. Dernburg and Strand's results are even stronger—a growth in teenage population results in a rise in teenage employment, and in an actual increase in the proportion of teenagers who are employed. Kalachek found that a rise of one percentage point in the teenage share of population increased the teenage share of employment by about half of a percentage point for boys and girls, ages 18-19, by .2-.5 of a percentage point for boys, ages 14-17, and had no significant effect for girls, ages 14-17.

All three studies provide strong proof of the adaptability or competitiveness of teenagers. If the mere presence of

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error shown in parentheses, are as follows:

$$\begin{array}{llll} E_t^T = 1858.4 + .0272E_{t-1}^A & - \; 193.7U_t^A & + \; 14.603\,U_t^{A^2} \\ \quad (272.4) \quad (.0076) & \quad (51.3) & \quad (5.416) \end{array}$$

$$+ \; \underset{(23.05)}{646.26}\,\frac{LF_t^T}{LF_t^A} \qquad \bar{R} = .99$$

where E is employment, U is the unemployment rate, LF is the labor force, the superscript T is teenagers, the superscript A is adults, and the subscript t is time. *Op. cit.*, p. 8.

more teenagers in a labor market results in higher employment, then either some teenagers are able to compete on an equal footing with adults, or else relative wages adjust to compensate for any disadvantages. While the studies by Thurow and Dernburg and Strand indicate that increased supplies of teenagers are fully absorbed, Kalachek's study, perhaps more reasonably, indicates that the amount of adaptability, or the proportion of teenagers who are adaptable, is not unlimited. A rise in the teenage population share is associated with a rise in the teenage employment share, but it is also associated with a decline in the fraction of teenagers who are employed. This would be expected if teenagers managed to find employment in those metropolitan areas with a high teenage population share by bidding down relative wages. A higher teenage-total employment share would then be associated with a lower teenage labor force participation rate. However, Bowen and Finegan, also using decennial census data, have found a positive association between the teenage population share and the teenage unemployment rate. The implication is that a higher teenage population is associated both with more teenage employment and with the growth of excess supply.

Aggregate Demand

All analysts have found significant relationships between the level of aggregate demand and teenage employment. The fact that teenagers are disproportionate beneficiaries of an expansion in demand can be taken as being well established. Various studies show different degrees of responsiveness for teenage employment but all coefficients are sufficiently high to be consistent with the hypothesis that teenagers are heavily concentrated toward the rear of the hiring queue. The unresolved question concerns nonlinearities. As labor markets tighten, will employer recourse to teenage labor progressively increase? As Tella phrases it:

> . . . suppose that, as the economy moves from a 5 percent to a 4 percent or lower total unemployment rate, the available supply of experienced primary workers begins to grow short. At some point, to satisfy their labor needs, employers step up their

> inservice training programs and accelerate the upgrading of available marginal workers. At the same time, as more jobs become available, workers may become more willing to take advantage of education and training opportunities. If such adjustments are triggered or accelerated by a tight market situation, then one would expect employment to flow more rapidly toward marginal workers as they are substituted for scarce primary workers. Hence, the coefficient (for the responses of group employment to total employment) would be greater for marginal workers in a tight market than in a loose market, and smaller for primary workers in a tight market than in a loose market . . . . Other things equal, a larger share of total employment going to marginal workers in periods of low overall unemployment would reduce their unemployment relative to primary workers.[11]

On this highly important question, different bodies of data and different means of specification result in different answers. Thurow states that "expanding aggregate demand has two effects on the employment of the disadvantaged. It leads to a direct expansion of employment among the disadvantaged, but it also leads to lower unemployment for the preferred group and thus to additional employment gains for the disadvantaged."[12] For teenagers, the direct effect is small. The elasticity of teenage employment with respect to adult employment is .3. "If the expansion of aggregate demand represented by preferred employment gains were the only factor affecting disadvantaged employment,"[13] the employment gap between adults and teenagers would widen rapidly. In addition, however, there is a significant nonlinear relationship between teenage employment and adult unemployment. "For teenagers, a decline in adult unemployment from 6 to 5 percent raises teenage employment by .7 percent, but a decline from 3 to 2 percent raises teenage employment by 2.4 percent." Employers prefer adults and hire them so long as they are available, but as the stock of unemployed adults diminishes (as the supply schedule of adult labor becomes more and more positively sloped), they increasingly tend to hire teenagers. The apple at the bottom of the barrel is eaten only after those on top are removed.

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[11] Tella, *op. cit.*, p. 1236.

[12] Thurow, *op. cit.*, p. 9.

[13] *Ibid.*

Kalachek found that employment among boys, ages 14-19, and among girls, ages 14-17, was quite sensitive to changes in the overall unemployment rate. Evaluated at the mean, the elasticity of group employment with respect to total employment ranges from 2.5 to 4 for older boys and from 3.5 to 6 for younger boys and girls (as the unemployment rate varies, assuming a constant sized labor force). In the 75 SMSA's for which data was analyzed, teenagers represented only 6 percent of total employment, but they accounted for 15 to 25 percent of an employment gain associated with a moderate reduction in unemployment. Nonlinear forms of the unemployment rate were experimented with, but they did not yield better results than linear forms.[14]

Dernburg and Strand estimate the elasticity of teenage employment with respect to total employment as 2.9.[15] In a methodological criticism of their work, Tella contends that correlations which span periods of high and low employment will not accurately reveal the employment response to be expected in a tight labor market.

> Of main concern here are the age-sex employment equations, particularly the magnitude of the coefficient b_1 which captures the response of group employment to total employment. The Dernburg-Strand correlations were run on the period 1953-62, but the average total employment-population ratio in the regression period was below its 1955-57 levels when the overall (officially reported) unemployment rate was about 4 percent. The value of b_1 in the total employment equations is, in fact, consistent with a total unemployment rate in the

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[14] Kalachek, *op. cit.*, pp. 16-17.

[15] Dernberg and Strand, *op. cit.*, p. 82

> decade averaging 5.2 percent. It is apparent, therefore, that b_1 is measuring the response of group employment to total employment in a *loose* labor market characterized by high overall unemployment. Nevertheless, the authors drew upon this coefficient to simulate employment by age and sex in a *tight* labor market characterized by an assumed 4 percent total unemployment rate. By so doing, they are implicitly assuming that the response of group employment to total employment does not vary in different stages of the cycle.[16]

Tella tests the hypothesis that the relationship between group and total employment ratios depends on the degree of labor market tightness by dividing the postwar period into five different cycle stages, each representing a different degree of labor market tightness, running a separate correlation for each cycle state, and comparing the coefficients for the total employment ratio. Since the differences between coefficients is trivial, Tella concludes:

> Thus, it appears that substitution among employment groups, insofar as it is reflected in the relation of group employment to total employment cyclically, does not accelerate in a tight market, but is a steady gradual process throughout all stages of the cycle.[17]

Does the hiring of teenagers accelerate as the labor market tightens? Kalachek's study indicates it does not, but his results are based on cross-sectional data. Using time series data, Tella and Thurow come to different answers. Their studies span different time periods. They use different sets of independent variables. In particular, Tella did not employ a measure of the relative availability of teenage and adult labor, though such availability varied greatly during the period studied. Finally, they test for nonlinearities in a different manner. Thurow includes the square of the adult unemployment rate as an independent variable, while Tella uses the stage of the cycle approach. Views on the existence of nonlinearities in time series data depend on evaluation of the relative efficiency of these two approaches.

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[16] Tella, *loc. cit.*

[17] Tella, *op. cit.*, p. 1240.

Time Trends

In Thurow's study, time failed to emerge as a significant variable either for the entire period or for different subperiods. This is a very important finding. It suggests that automation and rising job standards have not adversely affected the employability of teenagers. It also suggests that, as of mid-1966, government programs aimed at improving the employability of teenagers had not yielded beneficial effects which were perceptible on the aggregative level. On the other hand, Dernburg, Strand, and Tella found statistically significant negative time trends. The difference in results appears readily explainable. Since Dernburg and Strand used the ratio of teenage to total population as a measure of relative availability, their negative time trend may simply be describing the secular decline in labor force participation rates. Since Tella uses the ratio of teenage employment plus armed forces to teenage population as his dependent variable, it is likely that his negative time trend is also capturing the secular decline in labor force participation rates.

Wage Flexibility

The disproporationate concentration of teenagers toward the rear of the hiring queue suggests the existence of some impediment to wage flexibility. Indeed, it frequently has been suggested that minimum wage legislation is a powerful barrier preventing the establishment of relative wages which would clear the market for teenagers.[18] Surprising as it may be

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[18] For instance, Jacob Mincer writes:

> The factor of population size has been receiving increased attention, particularly in connection with the growth of the teenage group. However, the population explosion has been blamed for sins it does not perpetrate without accomplices. The population factor, *by itself*, need not increase unemployment or decrease labor-force participation. In the absence of strong barriers to downward wage flexibility, an

there is virtually no statistical support for this contention.[19] Thurow tested the impact of national minimum wage legislation by using the ratio of the minimum wage to average hourly earnings as an independent variable, and did not obtain significant results. Using annual data for the 1948-66 period, Hugh Folk correlated the teenage unemployment rate with the unemployment rate for white males, ages 35 to 44, a linear trend term, and a shift variable which denoted years during which important increases occurred in the minimum wage, "Regressions were computed for 14-17 year olds and 18-19 year olds by sex and enrollment status . . . . In no instance was the minimum wage shift variable statistically significant

> increased population group of teenagers will exert a downward pressure on their wages only to the extent of the inelasticity of substitution between less experienced and more experienced workers. Some and perhaps even a sizeable degree of wage decline is unlikely to produce labor-force withdrawal, *without going to school,* at this stage in life. Minimum wages, however, can effectively block entry to jobs for many of these youngsters. If their way back to school is blocked for reasons of low productivity (or "ability" or any other term indicating disadvantages), all these factors *interact* to lock a growing number of them out of the labor market and out of school as well.

"Labor Force Participation and Unemployment: A Review of Recent Evidence" in Robert A. and Margaret S. Gordon, (eds.) *Prosperity and Unemployment,* (New York; John Wiley & Sons, Inc., 1966), p. 99.

[19] One bit of support is provided by an unpublished set of time series regressions estimated by Arnold Katz. The independent variables were employment population ratio for males aged 25-54, the ratio of teenage population to the male population aged 25-54, and the ratio of the federal minimum wage to the average hourly wage in retail trade. The dependent variable was the ratio of male teenage employment to male teenage population. Equations were estimated separately for 14-17- and 18-19-year-old males, in and out of school. The minimum wage variable was always statistically significant. It had the expected negative sign for out-of-school youth, but was positive for in-school youth. Observations were for the month of October in the years 1947 through 1963. See the section on "Rising Teenage Unemployment" below for a discussion of some of the limitations of October data.

a conventionally desirable level."[20] Given the industries and cupations where teenagers are employed, it may be that ey are more adversely affected by state and local, rather an national minimums. In 1960, 45 of the 75 SMSA's vered in Kalachek's study were in states with their own inimum wage legislation. A discontinuity variable was used measure the impact of the minimum wage, assuming the lue of zero in the absence of the state minimum and one in s presence. The effective floor provided by this type of gislation varies from area to area and in some instances is low that the effect on employment could only be minimal. onsequently, an alternative formulation was also adopted to stinguish between states with a minimum of over and under dollar in service or trade activities. The values for these roxy variables were always either insignificant or had the rong sign. It should be noted that Thurow, Folk, and Kalahek all tested whether minimum wage legislation had a differential impact on teenage employment or unemployment and ot for whether there was an absolute impact.

Minimum wage laws are not the only impediments to wage exibility. Social mores and trade unions rank high on the st of other possible obstructions. Tests of their impact are ot readily constructed. For one thing, a really adequate easure of teenage wage rates is not available. Following owen and Finegan, however, a measure of male and female eenage weekly earnings can be constructed using decennial ensus data, by dividing the 1959 median income of all teenage nales or females with some income by an estimate of the nean number of weeks worked by all such teenagers who did ny work that year. In a correlation where other variables re used to control for teenage productivity, inter-area lifferences in this measure can be taken as an index of either vage flexibility or of the height of reservation wages. Kalahek found that the employment of teenagers rose in inverse relationship to the prevailing teenage wage scale. For each of the four age-sex groupings, the appropriate measure of average weekly earnings always had the correct sign. For older girls and younger boys, it was always statistically significant at the 5 percent level and explained a major portion of the variance.[21]

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[20] Hugh Folk, "The Problem of Youth Unemployment," paper prepared for the Working Seminar on Transition from School to Work, Princeton, May 9-10, 1968, p. 51. Folk also analyzed the impact of changes in minimum wages on teenage labor force participation with similarly negative results.

Can we reconcile the fact that an increased population of teenagers results in higher teenage employment with the existence of a degree of wage inflexibility which leads to persistent excess supplies of teenagers? The reconciliation is easily accomplished. Assume that growth in the teenage labor force leaves the distribution of quality among teenagers unchanged. Some of the incremental teenagers will be of relatively high quality and situated to the front of the hiring queue. They eventually will find jobs, even if overall employment is constant, due to continuing turnover among the employed. If employers are indifferent between higher quality teenagers and other job applicants, a greater inflow of teenagers will on a probability basis result in the hiring of more teenagers. Wage inflexibilities will only affect the employment prospects of lower quality teenagers who will go to the back of the hiring queue and experience unemployment, at least until preferred sources of labor are depleted.

At the same time, we should be aware that the cross-sectional relationship between wage flexibility and teenage employment was derived using an earnings measure which leaves much to be desired. Further, the queue theory is not the only reasonable explanation of why teenagers benefit disproportionately from a tightening of labor market conditions. Variations in teenage employment can also be explained by a "labor turnover theory." Employment relationships are normally not subject to continuous recontract. Accepted industrial practice, in nonunion as well as union establishments, effectively provides the incumbent of a job with full claim to it, so long as he meets minimum standards for efficiency and conduct. Job seekers normally have access to only a limited number of jobs, those which have been newly vacated or created. Most adult workers maintain relatively stable employment relationships and, except when laid off, seldom appear as unemployed job hunters. In contrast, each year a substantial number of teenagers enter the labor market for the first time. Many teenagers are part-year workers and consequently frequently leave and re-enter the labor market. Teenagers who are out of school and employed full time have very high quit rates. Taken together, these characteristics result in teenagers accounting for a disproportionate share of job hunters. If the probability of a job hunter finding employment is inversely related to the unemployment rate, it follows that the teenage-total employment ratio will rise as the unemployment rate falls.[22]

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[21] The theoretical and empirical support for the position that "the market for teenage male labor is not in equilibrium, but rather is characterized by 'excess supply' at the prevailing wage with more potential job seekers than job openings, and with the size of this gap directly related to the average weekly wage rate for teenagers in the community" is admirably presented in William G. Bowen and T. Aldrich Finegan, *Economics of Labor Force Participation* (Princeton: Princeton University Press), forthcoming.

High adult unemployment is generally due to layoffs. When unemployment begins to decline after a recession, many adults are recalled to jobs from which they had previously been laid-off. It may then be that the low employment elasticity found by Thurow is dominated by the recall effect during cyclical recoveries. The impact of the unemployment term in Thurow's model, particularly its nonlinearity, may reflect the fact that as unemployment drops a larger proportion of the hiring is new hiring. The level of teenage employment, is little affected by rehiring but heavily dependent on new hiring.

Occupational and Industrial Structure

Since the impact of occupational and industrial structure is investigated only in Kalachek's study, our knowledge here is derived solely from cross-sectional data.[23] The effects of occupational and industrial structure were tested for separately.

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[22] See Barbara Bergmann and David Kaun, *Structural Unemployment in the United States* (Washington: Economic Development Administration, and Edward Kalachek, "The Composition of Unemployment and Public Policy" in R. A. and M. S. Gordon (eds.) *Prosperity and Unemployment, op. cit.*

[23] Edward Kalachek, "Determinants of Teen Age Employment," *Journal of Human Resources*, Winter, 1969.

In each instance, two separate specifications were followed. First, percentage distributions of employment in each SMSA were obtained for 15 major industries and 11 major occupations, summing in each case to total employment.[24] One activity was then eliminated, and the remainder of the group was entered as a set into a multiple regression. This procedure permitted the determination of the effect of each separate activity (relative to the excluded one) and of the entire structure on the teenage total employment ratio. Since this measure of structure is based on quite broad industrial and occupational classifications, the possibility of aggregation error exists. A major occupation or industry may include some subactivities which are teenage intensive and others which are not. It is thus possible for an SMSA to have a disproportionately high share of major activities which are teenage intensive on the national level, and thus appear to be a desirable labor market for teenagers, while actually specializing in subactivities which are not teenage intensive. To guard against this possibility, a more disaggregated measure of structure was constructed. For each teenage group, a selection was made of approximately ten subactivities (for industries at the four-, three-, and occasionally two-digit level) which employed the largest relative number of teenagers and were also large enough to employ a significant number of teenagers.[25] For each SMSA, employment in these subactivities was added together and expressed as a proportion of total employment. This statistic, which is referred to as the key occupation or key industry ratio, measures the importance in each SMSA of teenage intensive subactivities.

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[24] The major industries were agriculture, mining, construction, durable goods manufacturing, nondurable goods manufacturing, finance and insurance, business and recreational services, personal services, entertainment and recreation, professional and related services, public administration, industry not reported, wholesale trade, retail trade, and transportation, communications, and public utilities. The major occupations were professional and technical, clerical, sales, craftsmen and foremen, operatives, domestic servants, nonfarm laborers, farm laborers, occupation not reported, managers, and officials.

[25] For instance, for females ages 14-17, the key industries were food and dairy product stores, general merchandise and limited

The relationships between these measures and the teenage total employment ratio were provocative but ambiguous. With only one exception, the sets of variables which measure the industrial and occupational structure were statistically significant at the 5 percent level. However, for older teenagers, the sets improved explanatory power by surprisingly little. Further, the signs for the coefficients of individual activities were frequently the reverse of what could reasonably be expected–being, for instance, negative in the case of some activities which are very teenage intensive. Finally, the results for the sets were generally not confirmed by the key activity measures. Key activities were statistically significant at the 5 percent level only for boys, ages 14-17.

The sets of occupational and industrial variables contribute to the explanation of teenage employment while the key activity measures do not, with their inadequacy being most pointed among girls. Yet, on *a priori* grounds, the key activity measures are the superior specification for the teenage job structure. The discrepancy may be due to the failure to take explicit account of the impact of the job structure on the availability of employment for adults. The favorableness of the job structure for adults should influence both the participation rates of those adult groups containing a significant number of secondary labor force members and also the extent to which adults are forced to compete with teenagers for the same jobs.

price variety stores, apparel and accessory stores, drug stores eating and drinking places, private households, medical and other health services, apparel and other fabricated textile products, all other retail trade, banking and other finance, insurance, and real estate. The key occupations were cashiers, retail salesman and sales clerks, n.e.c., private household workers living out, waiters, bartenders and counter workers, other service workers except private household, occupation not reported, typists, attendants, hospitals and other institutions, and unpaid family farm workers.

Metropolitan areas which have a favorable job structure for teenage girls may also be favorable for adult women. The entry into the labor market of large numbers of adult women could result in a low female teenager share of total employment, even though the area was a highly favorable labor market for girls. This covariation may be captured by the more inclusive sets, but not by the key activity measures. Rerunning the regressions for girls, 14-17 and 18-19 years of age, using specific employment population ratios rather than the teenage share of total employment as the dependent variable, provided a test of this hypothesis and led to its rejection. Another possibility is that metropolitan areas with a high proportion of teenage intensive activities may have poorer-than-average employment alternatives for those groups in closest competition with teenagers. In such areas, teenage girls would then be confronted with an abnormal amount of job competition from older women. This was tested for by introducing into the regression, as an independent variable, a femininity index—a measure of the availability of job opportunities for older women. The addition of this index resulted in key industries for girls, ages 14-17, becoming statistically significant at the 5 percent level, but otherwise its impact was minimal.

Despite the heavy concentration of teenage employment in key activities, teenage employment opportunities in any given community appear to be at most only moderately affected by the relative importance of teenage intensive activities. In communities where key activities are underrepresented, how do teenagers find jobs? Do they appropriate a larger share of the jobs in the key activities, or do they manage to extend their penetration into less favorable areas? Employment patterns were investigated for each teenage group in the ten SMSA's with the highest and lowest key industry to total employment ratios. This investigation indicated that teenagers do not significantly increase their penetration of adult-type job activities. Rather they appropriate a larger share of the jobs in key activities. The industrial versatility of teenagers thus appears to be quite limited, but the teenage-adult coefficients in favorable activities are anything but rigidly fixed. This means there is little reason for believing that the growth in job opportunities for teenagers will be crucially limited by growth trends for teenage intensive activities. Rather, teenagers hold only a modest proportion of the jobs in such activities and are able to secure a significantly higher proportion in those communities where these activities are underrepresented.

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LABOR FORCE PARTICIPATION

The labor force participation of teenagers has been declining throughout this century both in the United States and in other industrial societies. Between 1900 and 1950, the participation rate of male teenagers declined by about a third.[26] This downtrend continued during the post-war period, with the participation rate of males, ages 14-19, falling from 54.2 to 45.7 percent between 1947 and 1966, while the participation rates of girls showed little trend at about 32 percent.[27]

Lessened involvement in the labor market is the other side of the coin of increased school attendance. The shift from the work place to the school room is a response to a changing set of incentives and costs. High and rising private rates of return on the cost of schooling and increased family real income have made investment in education both more lucrative and more feasible.

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[26] See Clarence Long, *The Labor Force Under Changing Income and Employment*, a study by the National Bureau of Economic Research, 1958, pp. 284-316.

[27] There is very good reason to believe that the 100 percent marginal tax rate implicit in the Aid to Families with Dependent Children program prior to 1967 and in other welfare programs significantly discourages labor force participation by adult program beneficiaries with limited earnings capabilities. See Leonard Hausman, "The 100 Percent Welfare Tax Rate: Its Incidence and Effects," (doctoral dissertation, The University of Wisconsin, 1967). The impact, if any, of such welfare programs on the labor force participation of teenagers remains unexplored.

Social policy has encouraged school enrollment through the passage of compulsory school attendance and child labor laws. The transition from an agricultural to an urban society and from self-employment to wage and salary employment has diminished employment opportunities for teenagers and also reduced the advantages which parents secured from their children's labor. As opportunity costs have fallen, school attendance has naturally risen. This is demonstrated in the short run by the relationship between school attendance and unemployment. Changes in school retention rates are inversely correlated with the unemployment rate, and secondary school enrollment rates appear to be unusually high in depressed areas.[28]

Declining labor force participation, then, does not suggest a withdrawal from economic activity by teenagers or the emergence of a public policy problem. The labor force concept is appropriate for analyzing the economic involvement of adult men but is deficient when it comes to younger persons and other secondary labor force members. For adult males, labor force membership provides a rough but useful dividing line between those participating in and those who have abandoned productive economic endeavor either permanently or temporarily. For younger persons, however, the participation rate provides an increasingly downward biased estimate of the proportion engaged in productive endeavor, since education is an investment activity significantly affecting future productivity and income. As Bowen points out, the proportion of teenagers who are either attending school or working is a better measure of economic activity than the traditional participation rate.[29] This ratio has been steady among boys at 97-98 percent and has risen sharply among girls from 83 to 89 percent during the period between 1947 and 1965.

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[28] Beverly Duncan "Dropouts and the Unemployed," *Journal of Political Economy,* (April 1965) and U.S. Dept. of Labor, Bureau of Labor Statistics, "The Structure of Unemployment in Areas of Substantial Labor Surplus," Study Paper No. 23, Joint Economic Committee, *Study of Employment. Growth and Price Levels,* p. 16.

[29] William G. Bowen, "Unemployment in the United States: Quantitative Dimensions," in William G. Bowen and Frederick H. Harbison, (eds.) *Unemployment in a Prosperous Economy,* A Report of the Princeton Manpower Symposium, 1965, pp. 33-38.

Further insight can be obtained by observing separately the participation rate for school attenders and nonattenders. The participation rate of school attenders has been rising. Between 1948 and 1965, the rate rose from 24 to 28 percent for 14- to 17-year-old boys, from 28 to 36 percent for 18- to 19-year-old boys and from 27 to 49 percent for 20- to 24-year-old men. Among girls, the upward trend is equally marked. It is very likely that these higher labor force participation rates are related to the great growth in school attendance. The proportion of teenagers in school rose from 61 in 1947 to 79 in 1965. The increase has necessarily been most pronounced among lower income groups, introducing into the school system students under greater than average pressure to make some contribution to family income.

The story for nonstudents is different. There has been a marked downtrend in participation among boys and younger girls (though not among older teenage girls or persons 20-24 years of age).[30] This decline is probably also a result of increased school attendance. It seems reasonable to assume that the decline in the nonstudent proportion of the younger population results from those best qualified, in terms of physical health, emotional stability and responsiveness to incentives, becoming school attenders. The result would be a nonstudent population of progressively lower average quality exhibiting progressively lower participation rates.

Those teenagers who are neither in the labor force nor in school have been the object of considerable concern. William Bowen writes:

> All told, there were over a million teenagers in 1963 who were not enrolled in school, who were not

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[30] Between October of 1948 and 1965, the participation rate fell from 90 to 78 percent among boys 14-17 years of age, from 96 to 91 percent among boys 18-19 years of age, and from 56 to 41 percent among girls 14-17 years of age. It rose from 59 to 63 percent among 18- 19-year-old girls, from 47 to 52 percent among women in the 20-24 year category, and was basically unchanged among men, ages 20-24.

> employed and who (in the case of girls) were unmarried. By any reckoning, this large a number of young people in this amorphous combination of categories constitutes a major economic and social problem.[31]

Referring to the 28,600 boys, ages 16-24, living in the New York City metropolitan area whom the 1960 decennial census listed as being not in school and not in the labor force, a New York City Youth Board publication noted that:

> . . . some of them may be awaiting induction in the armed forces or involved with corrective, protective, handicapped physical health or mental health services.

and then concluded:

> There is no way of accounting for the absence of the remaining youngsters from the labor force, but it is fair to assume that a substantial proportion were unmotivated discouraged youths who had given up seeking work–the idle, aimless drifters whom Dr. James B. Conant has labeled "social dynamite."[32]

The recent addition to the Current Population Survey of questions on reasons for non-labor force participation permits a more comprehensive examination of this problem. Table 2 shows the amount and reasons for non-labor force participation by young boys and men during the nine school months of 1967. During this period, most youngsters who were not in the labor market were in school. The number who were not in the labor market or in school or incapacitated was quite small. Among boys, ages 16-19, it was 198,000 or 2.8 percent of the population; among men, ages 20-24, it was 132,000 or 1.8 percent. Among nonwhites, it was 36,000 or 4 percent for teenage boys; 28,000 or 3.3 percent of 20- to 24-year-old men.

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[31] Bowen, *op. cit.*, p. 38.

[32] New York City Youth Board, Report of the Mayor's Committee on Youth and Work, *Youth in New York City: Out-of-School and Out-of-Work*, December 1963.

TABLE 2

Reasons for Non-labor Force Participation of Men, Ages 16-24, for the Nine School Months of 1967

(Nine month average, in thousands)

	Total Labor Force	Not in Labor Force				
		Total	Keeping House	Going to School	Unable to Work	Other Reasons
Males, 16-19	3825	3303	9	3072	24	198
20-24	6407	1058	3	885	38	132
Nonwhite males						
16-19	430	481	1	439	5	36
20-24	756	100	1	66	5	28

Source: U.S. Department of Labor, Bureau of Labor Statistics, *Employment and Earnings and Monthly Report on the Labor Force*, 1967 issues.

These estimates include persons waiting to enter the armed forces, taking a brief vacation before returning to school or starting a job, recovering from a short-term illness, or simply amusing themselves during a period of voluntary idleness. They also include those who have abandoned the labor force because of distaste or despondency over the failure to find a job. The number of such youngsters must be small. Table 3 shows the results of an experimental survey conducted in September 1966 to determine how many men outside of the labor force wanted a regular job. Discouragement turns out to be far more important among school attenders than among school leavers. Less than 40,000 out-of-school men between the ages of 16 and 24 abandoned the labor market because of the belief they could not find a job.[33]

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[33] Further support for this view is provided by the February 1963 survey of out-of-school youth, ages 16-21. Some 220,000 boys, about 8 percent of the relevant population, were not in the labor force. Of these, 21.7 percent were waiting to join the Armed Forces, 5 percent did not want work, 23.2 percent were taking job training, 2.0 percent had family responsibilities, 18.7 percent were ill or disabled, and 22.7 percent gave other reasons. Only 6.6 percent reported themselves as being outside the labor force because no

TABLE 3

Men Not in the Labor Force Who Wanted a Regular Job, by Combination of Reasons for Not Looking for Work and Age, September 1966

(numbers in thousands)

Reason	Age in Years		
	Total 16 and Over	16 to 19	20 to 24
Total	1,641	673	122
Ill health, disability	429	11	11
In school	573	468	66
Miscellaneous personal reasons	144	22	28
Expect to be working or seeking work shortly	44	17	--
Believed it would be impossible to find work	450	155	17
No other reason	266	22	17
Also in ill health	51	--	--
Also going to school	133	133	--

Source: Robert L. Stein, "Reasons for Nonparticipation in the Labor Force," *Monthly Labor Review*, July 1967.

These statistics suggest that concern over non-labor force participation has been aroused by observation of a relatively few lurid examples.[34] Some of the individuals who are out of school and who have abandoned the labor market because of indifference or despair undoubtedly possess truly unfortunate personal histories and may be the potential source of a significant amount of social unrest. The numbers, however, appear to be quite small relative to the relevant populations,

work was available. Among girls outside the labor force, 8.2 percent did not want to work, and 3.1 percent thought no work was available. See Vera C. Perrella and Forrest A. Bogan, "Out-of-School Youth, February 1963," U.S. Dept. of Labor, Bureau of Labor Statistics, *Special Labor Force Report No. 46*.

[34] The summer is another problem. During June, July, and August, an average of 1.1 million 16-19 year olds and a quarter of a million

so small as to suggest that they represent instances of personality maladjustment rather than any significant national economic problem. This optimistic appraisal can be maintained however, only so long as we assume that the Current Population Survey adequately samples persons prone to nonlabor force participation.[35]

Cyclical Sensitivity of the Labor Force

Labor force participation by teenagers and workers in their early twenties is significantly affected by cyclical fluctuations in employment and unemployment. As employment rises and unemployment falls, the number of young workers, particularly teenagers, in the labor force increases sharply. In this respect, young workers are considerably more responsive than adults. These relationships have been demonstrated using cross-sectional data by Bowen and Finegan, and

20-24 year olds were out of the labor force without any stipulated reasons. Among nonwhites, the averages were 160,000 and 33,000. It is quite well-known (particularly to those who frequent either Europe or the beaches of this country) that many students divert themselves quite happily during the summer months without recourse to labor. Others undoubtedly need income and work experience, and are out of the labor force only because summer jobs are not available. The adage that the devil finds work for idle hands may be pertinent here. However, the size of the statistics gives no clue one way or the other as to how much of the non-labor force participation during the summer months represents waste and frustration, and how much represents voluntary leisure.

[35] Though there is no clear-cut documentation, some believe that these groups are under-represented. However, it is interesting to note that, in a different national probability sample where information on labor force status was gathered directly from the teenager (rather than from an adult household member, as is customary in the CPS), labor force participation rates were significantly higher, particularly for students, younger teenagers, and nonwhites. Since there were also differences in timing, in questions, and in the proportion of first-time interviewees in the two samples, inferences about the "truer" measure of labor force participation are still premature. See Robert C. Miljus, Herbert S. Parnes, Ronald M. Schmidt, and Ruth S. Spitz, "Some Correlates of the Labor Force Status of Male Youth," paper prepared for the Conference on Transition from School to Work, Princeton, May 9-10, 1968, p. 8.

using time series data by Dernburg and Strand, Tella, and Cooper and Johnston.[36]

As Table 4 shows, the estimates of cyclical sensitivity obtained by these analysts differ but are all high. The studies suggest that during recessions the teenage unemployment rate greatly understates the number of frustrated would-be employees. When teenage employment drops, more teenagers leave the labor force than enter the ranks of the unemployed. Conversely, reductions in teenage unemployment during a recovery do not come easily, since an increase in employment opportunities results in a substantial amount of labor force entry and re-entry. According to Dernburg and Strand,[37] an increase in male teenage employment would induce a labor force response 70 percent as large. An increase in female teenage employment would induce a labor force response over 90 percent as large. Over the range for which this estimate is valid, significant reductions in female teenage unemployment would not easily be attained.

The precise amount of cyclical sensitivity remains a very debatable question, varying over a wide range. Since Bowen and Finegan's estimates are based on cross-sectional data, it is not surprising that they differ from the findings of other studies. The three time-series studies differ because they cover somewhat different time spans, and have chosen both

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[36] See among others, W. G. Bowen and T. A. Finegan, "Labor Force Participation and Unemployment," in Arthur M. Ross, (ed.) *Employment Policy and the Labor Market* (Berkeley: The University of California Press, 1965), Thomas Dernburg and Kenneth Strand, "Cyclical Variation in Labor Force Participation," *Review of Economics and Statistics* (November 1964), and "Hidden Unemployment 1953-62: A Quantitative Analysis by Age and Sex," *American Economic Review* (March 1966), Alfred Tella, "Labor Force Sensitivity to Employment by Age and Sex," *Industrial Relations*, (February 1965), S. Cooper and D. F. Johnston, "Labor Force Projections 1970-80," *Monthly Labor Review* (February 1965), and Glen Cain, "Unemployment and the Labor Force Participation of Secondary Workers," *Industrial and Labor Relations Review* (June 1967).

[37] Thomas Dernberg and Kenneth Strand, "Hidden Unemployment 1953-62: A Quantitative Analysis by Age and Sex," *American Economic Review*, March 1966, p. 80.

TABLE 4

Cyclical Sensitivity of the Labor Force Participation Rate

Partial Regression Coefficient of the Labor Force Participation Rate on the Employment Population Ratio

	Cross-section 78 SMSA's, 1960 (Bowen and Finegan)	Monthly, 1947-62 (Dernburg and Strand)	Quarterly, 1947-64 (Tella)	Quarterly, 1947-63 (Cooper and (Johnston)	"Corrected Coefficient" (Mincer)	
	(Column 1)	(Column 2)	(Column 3)	(Column 4)	(Column 5)	
					(a)	(b)
Males		.36	.40[b]	.35	.17	.25
14-19 years	.80	.70	.36	.58	.28	.32
20-24 years		.26	.46	.46	.37	.25
Females		.70	.62[b]	.72	.33	.50
14-19 years	.75[a]	.93	.40	.74	.41	.30
20-24 years		.42	.44	.59	-.15	-.06

[a] Single women only.

[b] Based on annual data, 1948-62.

Note: Columns 1 and 4 are implicit partial regression coefficients derived by Mincer from the original works, Column 2 is the net effect of employment calculated by Dernburg and Strand from simultaneous equations, and Column 3 is the partial regression coefficient as calculated by Tella. Columns 5(a) and (b) are alternative corrections of the Cooper and Johnston implicit partial regression coefficients by Mincer, designed to isolate only those labor force changes which can be construed as responses to cyclical fluctuations in employment.

Source: Adapted from Jacob Mincer, "Labor-Force Participation and Unemployment: A Review of Recent Evidence," Tables 1 and 2 in Robert A. and Margaret S. Gordon, (eds.), *Prosperity and Unemployment, op. cit.*

different variables to measure cyclical fluctuations and different time lags. Dernburg and Strand use the aggregate employment-population ratio and the ratio of unemployment compensation exhaustions to population to measure cyclical fluctuations. Tella uses the teenage employment plus armed forces to teenage population ratio lagged one quarter, and Cooper and Johnston correlate the current quarters, teenage employment plus armed forces to teenage population ratio with the teenage unemployment rate. In each instance, there is reason to believe that the variables chosen are measuring more than just cyclical flexibility. In Bowen and Finegan's cross-sectional analysis, inter-area differences in unemployment may be at least partially of a structural nature. The use by Dernburg and Strand of both the aggregate employment and the unemployment compensation exhaustion ratio as independent variables in effect results in correlating the teenage labor force with the adult labor force. If the employment or unemployment to population ratio is used without a time lag, measurement errors will result in an upward bias. Even more important, fluctuations in teenage employment or unemployment may be due to fluctuations in supply and demand specific to teenagers as well as to economy-wide cyclical fluctuations. Columns 5(a) and 5(b) of Table 4 reproduce adjustments by Mincer of the Cooper and Johnston estimates, designed to correct for these biases.[38] As can be seen, Mincer's adjustments appreciably reduce the estimates of cyclical responsiveness. Hugh Folk has investigated this subject for the period 1948-66 specifying his independent variables so as to meet Mincer's criteria for capturing only cyclical responsiveness. He correlated the teenage labor force participation rate with the unemployment rate of white males ages 35-44 and time. For 16-17 year olds, he finds a good deal of cyclical sensitivity. Their labor force participation rate rises by about 1.3 percentage points when the unemployment rate declines by one percentage point. For 18-19 year olds, however, the relationship between unemployment and labor force participation is not statistically significant.[39]

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[38] This entire section draws on Jacob Mincer, "Labor Force Participation and Unemployment: A Review of Recent Evidence," in R. A. and M. S. Gordon, (eds), *Prosperity and Unemployment. op. cit.*, pp. 73-91.

The response of the teenage labor force to group specific fluctuations in demand is of as much interest as its cyclical sensitivity. The teenage unemployment rate remains quite high and the teenage employment-population ratio correspondingly remains low, when the overall unemployment rate is in the neighborhood of 4 percent. If sensitivity coefficients are biased upward by labor force response to group specific fluctuations in employment, as Mincer suggests, then a structural improvement in the labor market situation of teenagers would result in a sizable increase in the teenage labor force. If it were easier for teenagers to find jobs under full employment circumstances, many more teenagers might be in the labor force,[40] (including some who otherwise would be school attenders). The increase in teenage labor force participation as the labor market tightens can be considered to be the net result of an income and a substitution effect. As economic conditions improve, parents secure employment or longer hours of work, and their additional income discourages teenage participation. On the other hand, the substitution effect, the enhanced ability of teenagers to find a job within

[39] Folk, *op. cit.*, pp. 25-26

[40] There is some highly interesting indirect evidence on this point. Utilizing the 1/1000 tapes, Bowen and Finegan found that participation rates for enrolled teenagers, 14-17 years of age, declined with other family income, as income rose from less than $2,000 to $6,000. Surprisingly, participation rates then rose and remained high until significantly higher income levels were reached. The authors surmise that this reversal of the income effect may be due to the "comparative advantage that youngsters in these families have in finding part-time jobs. For one thing, their parents are more frequently able to help, mainly as a result of business and social contacts . . . . A related possibility is that there may be more part-time jobs available in and around these wealthier neighborhoods." They also found that young boys were most likely to be in the labor force when the family head was a service worker. Negro youngsters were most likely to be in the labor force when the family head was a domestic servant. In such cases of course, the family head is well situated for obtaining part-time employment for teenagers. See Bowen and Finegan, *The Economics of Labor Force Participation, op. cit.*, ch. 9.

any given time period, encourages participation; and over the range of observed variation, it is the more powerful effect. If teenage employment could be increased, while holding labor market conditions for adults roughly constant, teenage participation would respond only to the substitution effect and would presumably increase by more than it does during cyclical recoveries.

The social and economic implications of teenage labor force sensitivity have not been thoroughly explored. When adverse economic circumstances depress teenage participation, what portion of the responsiveness is due to students abandoning the hunt for part-time or part-year work, and what portion to nonstudents desisting from the work hunt? Does lowered participation during periods of economic slack represent a deadweight loss of work activities or simply an optimization of its timing? Mincer argues that the social and economic losses associated with lower participation by secondary workers during recessions is considerably lower than normally assumed:

> Consider a population group whose average participation rate is 40 percent. This does not mean that 40 percent of the individuals are almost always in the labor force; the remaining 60 percent, almost never. It means rather that the same individuals are sometimes in and sometimes out during a period of years. . . . Assume then that on the average, an individual in such a group expects to spend 40 percent of his time in the labor force. The fact that 60 percent of his time is spent outside of the labor force means that other than "gainful" activities are important. This implies that the opportunity costs of job-searching and job-holding are greater for secondary workers than for primary ones, and that the payoff to job mobility is smaller, since the expected period of employment is shorter. Hence the gain from moving into the labor market and the net loss from leaving it due to adverse conditions in the market can be quite small, and certainly much smaller than for the primary groups. Given some scope for timing of

> their activities, work in the labor market will be preferred at times when search costs are low and job conditions attractive.[41]

Mincer's hypothesis possesses a good deal of intuitive plausibility insofar as housewives are concerned or even as an explanation of the behavior of younger workers during brief recessions. However, given the brevity of the teenage working career, the lower participation rates for younger workers which characterize extended periods of above 4 percent unemployment, as in 1958-63, cannot be explained by the optimization over time of a predetermined amount of participation. The net result of extended periods of high unemployment is to reduce the absolute amount of labor market exposure and of market work obtained by teenagers. When we consider that the median earnings of teenage males working full-time year-round was $2,400 in 1966 (and that this overstates the net addition to output resulting from a teenager leaving school and entering the labor market full-time), it is clear that the losses in total output from reduced participation are quite modest. It is possible to become seriously perturbed only because for some teenagers, labor force participation may have significant therapeutic value; while for others, it may contribute crucially to the development of adult work skills and attitudes.[42]

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[41] Mincer, *op. cit.*, p. 99.

[42] It certainly contributes to one's ability to find a job promptly after leaving school. "Among dropouts thirty percent of those who had worked during their school years had jobs waiting when they withdrew from school, compared with only seventeen percent of those who didn't work. Graduates who had held a job while in school were almost three times as likely as those who didn't work to have a job waiting upon graduation—forty-four and seventeen percent respectively," Thomas E. Swanstrom, "Out-of-School Youth, February 1963—Part II," U.S. Department of Labor, Bureau of Labor Statistics, *Special Labor Force Report No. 47*, p. 1419.

3

UNEMPLOYMENT

The three most important facts about teenage unemployment can be quickly stated. Teenage unemployment is almost always high. It is quite cyclically sensitive. During the recent decade, it has shown a strong positive time trend. Each of these facts will be examined in turn.

Teenagers tend to experience significantly higher unemployment than other labor force groups even in the tightest of labor markets. For instance, in 1944, the overall unemployment rate was 1.2 percent and the teenage rate was 3.2 percent. In 1951-53, the overall unemployment rate was 3.1 percent, and the teenage rate 8.1 percent. In 1955-57, the overall rate was 4.3, and the teenage rate 11.2 percent[43] Why do teenagers fare so ill in the best of times? Information available for the 1964-66 period indicates rather conclusively that high teenage unemployment results from the hunt for the first job or for a new job after a period of non-labor force participation. In the six months for which data are available, the unemployment experience of new entrants was sufficient to result in an unemployment rate of 8.8 percent for all teenagers (see Table 5). Teenagers accounted for 79 percent of the unemployment resulting from the initial job hunt. The month of June accounts for three of the six observations.

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[43] U.S Department of Labor, *Manpower Report of the President, including A Report on Manpower Requirements, Resources, Utilization, and Training*, U.S. Government Printing Office (Washington: 1968), pp. 221 and 234.

TABLE 5

Unemployment Rates, by Reasons for Looking for Work, Selected Months 1964, 1965, and 1966

(percent)

	Total Unemployment Rate	Job Loser	Job Leaver	Re-entrant	New Entrant
14-19 Year Olds, Both Sexes					
June, 1964	22.0	2.1	1.1	6.2	12.6
December, 1964	13.7	3.1	1.0	2.4	7.2
June, 1965	20.8	1.6	1.0	5.9	12.3
November, 1965	11.8	1.9	.9	2.2	5.8
January, 1966	11.8	3.0	.8	2.4	4.5
June, 1966	18.5	1.2	1.0	5.8	10.5
14 Years of Age and Over, Both Sexes					
June, 1964	6.1	2.2	0.7	1.5	1.7
December, 1964	4.7	2.3	.6	1.0	.8
June, 1965	5.5	1.8	.6	1.5	1.6
November, 1965	3.9	1.6	.7	1.0	.6
January, 1966	4.4	2.2	.7	1.0	.5
June, 1966	4.9	1.2	.7	1.5	1.5

Source: Kathryn D. Hoyle, "Why the Unemployed Look for Work," U.S. Department of Labor, Bureau of Labor Statistics, *Special Labor Force Report No. 78*, p. 35.

During June, we can expect the ranks of the unemployed to be swollen with new job seekers due to the outpouring of graduates hunting for their first permanent job and of nongraduates hunting for summer work. However, when we average the November, December, and January observations, new entrants still account for a teenage unemployment rate of 5.8 percent. Labor force re-entrance looms next largest in explaining teenage unemployment. It resulted in an unemployment rate of 4.3 percent for the six months and of 2.3 percent for months other than June. If we eliminate these two origins of joblessness, then the teenage unemployment rate for the six months is 3.1 percent, and the overall unemployment rate is

2.6 percent. The huge gap between adult and teenage unemployment has been effectively eliminated.

This predominance of entrances and re-entrances among the teenage unemployed seems at odds with the widely accepted impression that teenagers are more susceptible than adults to layoff because of low seniority or unsatisfactory performance and are more likely to voluntarily quit jobs because of their natural inclination for exploring labor market alternatives. Again, we are confronted with the limited usefulness of the concept *teenager* in differentiating a group with common labor market problems. Persons, 14-17 years of age, are simply a very different kettle of fish than are 18-19 year olds. For youngsters, 14-17 years of age, the secondary importance of employment and the relative absence of career orientation reduce the incentive for job-hopping, and the concentration of employment in service and trade activities reduces the susceptibility to layoff. Consequently, both voluntary and involuntary job-changing are infrequent, as can be

TABLE 6

Job Shifts Per 100 Persons Who Worked in 1961, by Reason

	Total, 14 Years of Age and Over	14-17 Years of Age	18-19 Years of Age	20-24 Years of Age
Job loss	5.3	2.2	9.5	9.7
Improvement in status	5.3	2.4	12.7	11.5
Termination of temporary job	2.1	4.1	6.4	4.8
Illness or disability	.6	.3	1.3	1.1
Household responsibilities	.3	.2	.9	.8
School responsibilities	.7	2.3	5.3	2.7
Other reasons	1.8	1.3	4.4	4.3
Not reported	.2	.2	.5	.6
Total	16.3	13.0	41.0	35.5

Source: Derived from data contained in Gertrude Bancroft and Stuart Garfinkle, "Job Mobility in 1961," U.S. Department of Labor, Bureau of Labor Statistics, *Special Labor Force Report No. 35*, p. A-12.

seen in Table 6. Many of the younger teenagers are interested in Christmas vacation or summer jobs and, if they acquire jobs of potentially more protracted duration, eventually depart because of school responsibilities. For them, the chronological chain is frequently job termination or voluntary job departure to labor force withdrawal to job hunt, rather than job departure to job hunt. This intermittency of labor market attachment results in their joining the ranks of the unemployed as labor market re-entrants rather than as job leavers or job losers. On the other hand, the experience of 18-19 year olds is compatible with the common impression of teenage labor market behavior. Older teenagers are extremely susceptible to layoff and have very high quit rates. If we average the experience of younger and older teenagers, quits for status improvement and layoffs are not too much greater than for the labor force as a whole.

The awesomely high unemployment rates experienced during the teenage years do not provide the basis for predicting an adverse labor market future for any population cohort. Within a decade, by the time a cohort has reached the mid- to late-twenties, its members are experiencing unemployment rates comfortably below average.[44] What is the transforming chemical at work in the aging vat? Why does the passage of time result in lower unemployment? As workers mature, they do acquire more experience, education, and responsibility, and these are attributes which employers generally regard as highly desirable. The fact that desirability may rise with age must be of secondary importance, however, since teenagers do not have greater difficulty in finding employment than adults. Many young workers make their initial labor market entrance or a re-entrance upon permanently leaving school; Table 7 shows that the majority of school leavers manage to secure their initial full-time, year-round job with considerable dispatch, though for some, an extremely long period of time elapses between leaving school and beginning a permanent job. More to the point, Table 8 shows that young job changers and young job losers find new employment at least

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[44] In October 1966, for instance, the unemployment rate was 11.0 percent for 16-17-year-old males, 8.3 percent for 18-19 year olds, 5.5 percent for 20-21 year olds, and 2.2 percent for 22-24 year olds.

TABLE 7

Length of Time Elapsed Between the Leaving of School and the Starting of the First Full-Time Job, for Males Ages 16-21

(percent distribution)

Education	Total	Less than 1 Month	2-3 Months	4-6 Months	7-12 Months	More than 12 Months
8 years or less	100.0	43.8	7.3	9.1	10.1	29.6
1-3 years of high school	100.0	49.3	12.8	8.1	12.6	17.2
4 years of high school	100.0	55.8	17.6	7.7	8.7	10.2
Age						
Less than 16 years	100.0	44.3	5.7	8.7	10.5	30.8
16-17 years	100.0	47.9	13.5	8.2	13.1	17.2
18-21 years	100.0	57.8	18.1	7.7	7.6	8.8

Source: Vera C. Perrella and Forrest A. Bogan. "Out-of-School Youth, February 1963." U.S. Department of Labor. Bureau of Labor Statistics. *Special Labor Force Report No. 46*, p. A-8.

as readily as adults. The average duration of unemployment is shorter for teenagers than it is for adults.[45] The transformation wrought by age must be traceable to other causes. Mainly, it would seem to be increased availability for year-round, full-time work, to enhanced motivation, and to the fact that job possessors are less vulnerable to unemployment than labor force entrants. Everybody ultimately makes his first entry into the labor market. Everybody ultimately emerges from school and becomes eligible for full-time, year-round work. Most male adults ultimately become committed to such activity and acquire an interest in job stability.

[45] For the labor force as a whole, the duration of unemployment in 1967 was as follows: less than five weeks—55 percent, five to 14 weeks—30 percent, 15 to 26 weeks—9 percent, and 27 weeks and over—6 percent. For teenagers, the distribution over the same intervals was 6, 30, 7 and 3 percent, respectively. It is sometimes asserted that teenagers experience absolutely more long-duration

TABLE 8

Experience of Male Job Changers, 1961

(percentage distribution)[a]

	Total, 14 years of age and over	14-17 years of age	18-19 years of age	20-24 years of age
Lost no time between jobs	40.0	32.2	36.1	39.0
Did not look for job	7.8	27.2	14.8	8.4
Looked for job—lost some time between jobs	47.1	33.0	47.7	50.1

Duration of Unemployment of Job-Lookers who Lost Time Between Jobs

(percentage distribution)

1-4 weeks	48.4	60.4	49.5	58.3
5-10 weeks	27.5	13.8	31.0	21.4
11-14 weeks	10.4	8.2	8.2	10.7
15-26 weeks	10.6	8.2	9.6	6.2
27 weeks and over	3.2	9.4	1.5	3.4
Total	100.0	100.0	100.0	100.0

[a] This distribution will not sum to 100 percent because of omission of job changers in activities where the normal employment relationship is casual.

Source: Derived from data contained in Gertrude Bancroft and Stuart Garfinkle, "Job Mobility in 1961," U.S. Department of Labor, Bureau of Labor Statistics, *Special Labor Force Report No. 35*, pp. 2 and A-5.

unemployment than any other age group. While the assertion is true, it does not imply that unemployed teenagers experience more difficulty finding jobs than do unemployed adults. Rather, since teenagers are more exposed to unemployment than adults, they will naturally experience more long-duration unemployment, unless their probability of finding a job per unit of time is sufficiently greater than that of adults. Still, one should not read too much significance into the fact that the average duration of unemployment is shorter for teenagers than for adults, since teenagers are less likely than adults to enter unemployment through layoff and are more prone to terminate an unemployment spell by labor force departure.

The great gap between teenage and adult unemployment is traceable, then, to the nonpathological characteristics of teenagers. Not to these characteristics in isolation, however, but to their interaction with the societal institutions which shape the transition from school to work. The experience of other industrial societies suggests that improvements in educational and labor market policy may result in a reduction in the "normal" level of joblessness among teenagers.

Rising Teenage Unemployment

Despite the cyclical responsiveness of their labor-force participation, younger workers suffer disproportionately from unemployment whenever labor markets ease. This sensitivity to recessions and other periods of demand deficiency appears to reflect both vulnerability to layoff and the fact that a disproportionate number of teenagers are job hunters. New hires slacken during recessions, while the competition for vacancies grows.[46] Young workers also benefit disproportionately from demand increases. The relationship between youth unemployment and the level of aggregate demand is essentially symmetrical. This sensitivity to demand fluctuation is shown by all categories of youth, though in different degrees, as demonstrated in Table 9 which shows the multiple correlation of youth unemployment with prime working age male unemployment and time.

Table 9 also shows that teenage unemployment has risen with time relative to the experience of other age groups.[47]

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[46] Lester Thurow found that the marginal disabsorption propensity during recessions was greater for 18-24 year olds than for any other age group, presumably due to their low seniority. On the other hand, the marginal disabsorption propensity was quite low for 14-17 year olds, many of whom are employed in activities relatively immune to cyclical fluctuation. See "The Changing Structure of Unemployment: An Econometric Study," *Review of Economics and Statistics*, May 1965, pp. 143-144.

[47] The statistical significance of the linear trend term suggests that the labor market experience of teenagers has been deteriorating continuously during the postwar period. A visual inspection of the

TABLE 9

Unemployment Rates for Younger Persons as a Function of the Prime Working Age Male Unemployment Rate and Time, 1948-1967

(standard errors in parentheses)

Demographic Characteristics	a_i	b_i	c_i	R^2
Males, ages 16-17	4.46	1.70 (.22)	.35 (.04)	.88
18-19	1.26	2.58 (.19)	.22 (.04)	.92
20-24	.32	2.15 (.13)	.01 (.02)[a]	.94
Females, ages 16-17	4.40	1.58 (.33)	.43 (.06)	.80
18-19	2.55	1.33 (.22)	.40 (.04)	.88
20-24	1.11	1.21 (.10)	.17 (.02)	.93
White males, ages 16-17	.61	2.67[a] (1.96)	.53[a] (.36)	.18
18-19	1.67	2.42 (.17)	.14 (.03)	.93
20-24	.29	2.00 (.12)	.01 (.02)[a]	.94
White females, ages 16-17	4.71	1.52 (.28)	.32 (.05)	.80
18-19	2.39	1.24 (.25)	.31 (.05)	.80
20-24	1.17	1.02 (.09)	.13 (.02)	.92
Nonwhite males, ages 16-17	2.85	2.94 (.51)	1.12 (.09)	.91
18-19	1.14	3.52 (.56)	.74 (.10)	.84
20-24	1.86	3.08 (.29)	.01 (.05)[a]	.87
Nonwhite females, ages 16-17	.42	2.27 (.91)	1.47 (.16)	.83
18-19	4.96	2.23 (.54)	1.01 (.10)	.87
20-24	2.15	2.30 (.36)	.37 (.07)	.80

Where the unemployment rate for the ith group $= a_i + b_i$ (unemployment rate men ages 25-54) $+ c_i$ (time).

[a] Not significant at the .05 level.

scatter diagrams for teenage and prime-working-age-male unemployment rates suggests instead that the deterioration was markedly concentrated into two periods occuring immediately after 1957 and after 1962. However, when shift variables are substituted for the linear trend term the amount of variance explained frequently tends to be somewhat lower.

The deterioration has been most severe for girls,[48] for younger teenagers, and for nonwhites. For white boys, ages 16-17, unemployment does not show a statistically significant time trend. The deterioration in teenage unemployment appears to be more a stage of life rather than a cohort occurrence. Unemployment has shown an uptrend among women, ages 20-24, but not among men of that age group. The boys who were 16 to 19 years of age in 1955-58 are now, a decade later, in their late twenties, and their current labor market experience shows no trace of the heritage of rising teenage unemployment.

There is no reason to expect the relative unemployment experience of any demographic group to be historically constant. Rather, it will fluctuate as the result of permanent or temporary alterations in its basic determinants; such factors as the group's relative rate of population increase, the proportion of its labor force members who are new entrants or re-entrants, the quit rate, changes in demand in the activities where its members are primarily employed, and changes in its relative education and skill level. The unemployment experience which has overtaken teenagers may be due to a permanent deterioration in their ability to compete in the labor market or to some far less ominous development. The problem is to isolate the causes of the time trends in teenage unemployment and to determine their implications for the future employability of teenagers.

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[48] Lester Thurow explains the fact that there has been more deterioration in the relative unemployment experience of young women than of young men on the basis of three factors: "First, with large increases in the female labor force among older women, there is more competition for jobs traditionally held by women. Even if young women win out in this competition in most cases, it is certain to have a marginal impact. Second, young women are concentrated in occupations not very responsive to marginal increases in aggregate rate of growth, such as clerical work. Young men are more concentrated in occupations which expand rapidly with higher growth rates. Third, the population in the 25-34 age group is currently falling. Both young women and men benefit by being able to fill jobs that would customarily be held by people in this age group, but women in the 25-34 age group have low participation rates since most are at home with their families. Thus there are fewer extra female jobs available due to low population levels in the 25 to 34 age group." "Discussion on The Pattern of Unemployment" in R. A. and M. S. Gordon, (eds.), *Prosperity and Unemployment, op. cit.*, p. 258. Hugh Folk states that "The changing structure of youth unemployment, and the changing rates of the various groups of youth, can be explained quite directly as a result of the 'glut' of younger workers and of employer selectivity among job seekers . . . . The jobs that are available are disproportionately filled by preferred groups of younger workers," *op. cit.*, p. 72.

Voluntary quits, labor force entrance and re-entrance, and layoffs are the three major channels through which people enter unemployment. At one time, it appeared as though a significant portion of the rise in teenage unemployment could be traced to changes in the relative importance of these three channels. Characteristically, different labor force groups enter unemployment through different channels, so that at any given unemployment rate, the distribution of unemployment between teenagers and adults will depend on the size of the flows through each of the channels. Teenagers experience unemployment primarily because of entrance and re-entrance, while layoff is a far more important cause of joblessness for adults. During the early 1950's, the economy reached unemployment rates of 5.5 percent only during recoveries or recessions. During these periods, unemployment was high either because of a currently high layoff rate or a past heritage of high layoff rates, so the unemployment stock contained a high proportion of adults. During the late 1950's and the early 1960's, on the other hand, the economy twice reached 5.5 percent unemployment during a recovery period; and for an extended subsequent time interval, demand grew by an amount just sufficient to maintain this unemployment rate. As time proceeded, the adults who had entered the unemployment stock through layoff during the preceding recession emerged. Unemployment remained high because there were not enough jobs for those entering the labor force rather than because of an extinguishment of jobs. Consequently, given the unemployment rate, joblessness fell with particular severity on entry groups like teenagers.[49] By a similar chain of reasoning, high teenage unemployment could be attributed to unusually low quit rates:

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[49] See Edward Kalachek, "The Composition of Unemployment and Public Policy," in Robert A. and Margaret Gordon, (eds.), *Prosperity and Unemployment, op. cit.*, pp. 280-235.

> Labor turnover affects the distribution of unemployment among particular groups, as well as the level of frictional unemployment in general. If there is relatively little turnover, the unemployed may consist largely of those entering the labor force—typically a high proportion of the young. With a high turnover, the composition of the unemployed becomes more like that of the employed, and the youth unemployment rate falls relative to the rate in other groups. On the other hand, a drop in the rate of labor turnover lowers the level of frictional unemployment and thus the level of total unemployment, but it raises the proportion of unemployment suffered by youth.[50]

The willingness of workers to leave current employment fluctuates with the unemployment rate. During the early 1960's, however, given the unemployment rate, the quit rate was lower than would have been expected on the basis of the experience of the 1950's:

> The fact that quits were unusually low when unemployment was high is part of the explanation for the sharp rise in youth unemployment rates when the rate for prime age males rose.[51]

The mechanisms described above seem highly plausible as explanations for higher teenage unemployment, but they are no longer operative. During the past several years, the overall unemployment rate has dropped to and hugged the 4 percent level, as it did twice before during the postwar period, and the quit rate has risen substantially, but higher teenage unemployment still persists.

Minimum wage legislation has also been cited as a possible cause of higher teenage unemployment. Studies of the impact of the minimum wage have been cited earlier. The lack of statistical significance of minimum wage variables[52] in both time series and cross-section studies, surprising though it may be, means that such legislation does not have to be considered for the role of major culprit. Further, relative teenage earnings appear to have exhibited a considerable amount of downward flexibility during the past decade (see Appendix).

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[50] Bergmann and Kaun, *op. cit.*, p. 85.

[51] *Ibid.*

The popular literature explains the labor market dilemma of the teenager by stating that the low-skilled and low-paid "entry jobs" through which teenagers traditionally acquired work experience and a foot on the promotion ladder are being eliminated, leaving a permanent surfeit of job opportunities for teenagers. Entry jobs are normally equated with unskilled and semi-skilled blue-collar work.

> Technical change is said to be destroying unskilled jobs, most especially the traditional "entry jobs" through which teenagers used to make their way into the labor force—i.e., jobs that could be filled by youngsters with little education and no particular skill or training, but that might lead to more skilled and better paying jobs later on. Eli E. Cohen, executive secretary of the National Committee on Employment of Youth, has estimated that some 250,000 entry jobs a year are disappearing as a result of technical change.[53]

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[52] Limitations on coverage may explain why teenage employment has not been disproportionately affected in the past by minimum wage legislation. If so, and if coverage is progressively extended into lower paying service and trade activities, it is quite conceivable that employment opportunities for teenagers will be adversely affected in the future. This entire area merits further research. The fact that a number of independent statistical studies have found no relationship between the minimum wage and the relative employment and unemployment of teenagers does not rule out the possibility that a link could eventually be found by researchers using more appropriate specifications or better data sources. However, it does suggest that such a link, if it exists, is of relatively limited importance.

[53] A summary of the "entry job" agrument contained in an excellent article by Charles Silberman, "What Hit the Teenagers," *Fortune*, April 1965.

A summary of the technical literature provides not an iota of support for this contention. First, the cross-sectional study of teenage employment found the impact of job structure on employment to be considerably less crucial than is implied above. A statistically significant relationship does exist between teenage employment and some measures of occupational and industrial structure, but the meaning of the relationship is unclear. In communities where the job structure is unfavorable, teenagers find employment simply by capturing a larger proportion of the jobs in teenage-intensive activities.

Second, the very concept of disappearing entry jobs is untenable. Every ladder must have a bottom rung, and in every industry, there are low echelon jobs for which novices are hired.[54] Admittedly, these novices need not be teenagers. Generally, teenagers will be employed on jobs which require only modest amounts of skill or prior experience, involve low hiring costs, minimal training expenditures, and pay low wages. The activities which provide "entry jobs" for teenagers will tend to vary over time, as there are alterations in the occupations and industries where these prerequisites are met.

Third, most teenagers are either not interested or not eligible for "entry jobs" if these are defined as "jobs that could be filled by youngsters with little education and no particular skill or training, but that might lead to more skilled and better paying jobs later on." The typical teenage labor force member is enrolled in school. He is seeking part-year and part-time work which will yield some income and some work experience. The competing claims on his time and energy generally do not permit him to seriously compete for jobs on a promotion ladder.[55] Even younger graduates and drop-outs may find that protective legislation and employer prejudices limit their access to "entry jobs,"[56] and require them to hunt for employment in dead-end activities.

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[54] On the basis of a series of extensive interviews in 1964 and 1965 with industrial engineers and industrial relations and operating executives in 23 manufacturing plants, Peter B. Doeringer and Michael J. Piore conclude: "The firm will always try and hire the 'best' labor force available. In a loose labor market, this causes unemployment to be concentrated among such groups as the poorly educated, the Negroes, the young. Nevertheless, our research suggests that the internal labor market will provide the training adjustments necessary to integrate these less-qualified employees into the job structure of the plant," "Labor Market Adjustment and Internal Training," *Proceedings of the Eighteenth Annual Meeting, Industrial Relations Research Association.*

> The average youth enters the labor force initially as a part-time or summer job seeker. He is not available for "career" jobs, rather he seeks a "youth" job. This distinction is not precise, only useful. Youth jobs do not necessarily lead to career jobs but are open to young workers. They include babysitting, farm labor, sales clerks in variety or food stores, and the like. Typically these jobs are in non-union firms, small firms, and only infrequently lead to permanent or career employment. Such jobs are open to youth because they require little in the way of experience, training, education, or responsibility. Career jobs, in contrast, are the first rungs on job ladders that lead to good jobs. These include jobs in manufacturing, offices, and large stores in which employment can be expected to be permanent and to lead to better jobs.[57]

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[55] In 1967, for instance, on an annual average basis, 1.4 million 16-17 year olds were engaged in voluntary part-time nonfarm work; only 455,000 were working full-time.

[56] "While state laws differ, the general standard is that all wage employment is barred to those under 14, all employment during school hours is barred to those under 16, and certain hazardous jobs and industries are barred to youth under 18. This limits employment opportunities in many jobs for youth, and some employers prefer to avoid even the possibility of problems by hiring no one under the age of 18. Many of the entry jobs in manufacturing, transportation, and communications are by their nature hazardous. so that career entry must be delayed at least until age 18." Hugh Folk, *op. cit.*, p. 45.

[57] Folk, *op. cit.*, p. 36.

The labor market fortunes of teenagers are thus not as closely tied to unskilled and semi-skilled blue-collar work as is frequently assumed. Protective legislation, the high entry wages now prevalent in many manufacturing concerns, and the great increase in school enrollments have progressively weakened these ties. Clerical, sales, and service work are the major sources of employment for teenagers enrolled in school, as can be seen in Table 10. The growth in relative importance of such activities has actually increased rather than decreased the number of job opportunities available for the typical urban teenager enrolled in school. In 1966, clerical, sales, and service work employed 51 percent of such teenagers (and 36 percent of the total workforce). Unskilled

TABLE 10

Employment of School Age Youth, October 1966

(in thousands)

Occupation	Enrolled in School		Not Enrolled in School	
	14-17 years of age	18-19 years of age	14-17 years of age	18-19 years of age
Professional and technical	50.2	96.5	3.8	73.6
Farmers and farm managers	2.8	2.1	1.9	11.5
Managers and officials	5.6	6.2	-	29.9
Clerical workers	287.5	268.8	74.8	715.9
Sales workers	404.7	139.1	8.7	82.8
Craftsmen and foremen	22.3	30.1	20.4	110.5
Operatives	248.4	154.6	80.5	658.4
Private household workers	549.8	36.3	17.4	59.9
Service workers	491.2	209.7	56.3	248.6
Farm laborers	354.5	21.8	62.4	85.2
Nonfarm laborers	373.9	72.7	51.4	225.6
Total	2,791	1,038	378	2,302

Source: Derived from data contained in Vera C. Perrella, "Employment of School Age Youth," U.S. Department of Labor, Bureau of Labor Statistics, *Special Labor Force Report No. 87*, p. A-10.

and semi-skilled blue-collar, farm and nonfarm work accounted for only 32 percent of teenage employment (and 26 percent of total employment). Out-of-school youth are a somewhat different matter. While clerical, sales, and service work are still the major sources of employment—accounting for 47 percent of all jobs,[58] lesser-skilled blue-collar work is also disproportionately important, accounting for 43 percent of all jobs. Over the postwar period, the number of such blue-collar jobs has grown quite slowly. But the number of teenagers not enrolled in school has actually declined. In 1947, there were 4.9 million; in 1957, 3.7 million; and in 1966, 4.4 million such teenagers. The ratio of blue-collar jobs to out-of-school youth is higher today than it was in 1947.

Finally, recent employment trends provide the most convincing evidence that teenage employment opportunities are not being eliminated by advances in technology or shifts in the structure of demand. In 1947, persons, ages 16-19, accounted for 6.9 percent of total employment. The teenage population declined during most of the 1950's, and by 1958, only 5.7 percent of all jobs were filled by teenagers. After that, the teenage share of total jobs began to rise and was 7.6 percent in 1967. In 1960, teenage employment reached what was then a postwar high of 4,130,000. Since then it has grown by 1.5 million or 38 percent, while total employment was increasing by 8.6 million or 13 percent. Since 1960, teenagers have accounted for 18 percent of the increase in total employment. Decline or stability in the number of jobs available for teenagers clearly is not the problem. Rather, teenage employment has grown impressively. The problem is that it has not grown quite as impressively as has the teenage labor force.

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[58] It is interesting to note the occupations listed with the New York City Board of Education by 16- to 17-year-old applicants for full-time employment during the 1956-61 perod. For boys, the ranking occupations were office clerk, delivery or errand boy, general or bench worker, telephone messenger, packer or shipper, salesperson, kitchen worker or busboy, counter or curbworker, mechanic's aide or repairman, camp counselor, office appliance operator, truck driver's helper, domestic worker or hospital worker. "Youth in New York City Out-of-School and Out-of-Work," New York City Youth Board, *Report of the Mayor's Committee on Youth and Work*, December 1963.

This impressive growth in teenage employment cannot be attributed solely to the unaided capacity of the private economy, operating under high demand conditions, to recruit, train, and absorb available labor resources. Absorption has undoubtedly been facilitated by the dramatic expansion, during the 1960's, of federal and federally financed programs for improving the employability of teenagers. Some programs appear to have engaged in skimming tactics, but assistance has mainly been channeled to teenagers whose personality characteristics, educational limitations, or past experience were likely to have the least appeal to employers. The evolving federal effort includes programs such as the following. The Youth Opportunity Centers of the U.S. Employment Service (USES) are designed to improve the counseling, referral, and placement services available to youth. The Job Corps provides general and vocational education and work experience in urban and rural residential centers (total enrollment in mid-1968 was about 33,000). The Manpower Development and Training Program provides institutional and on the job vocational training (by July 1968, it is estimated some 200,000 youth had completed such training). The Neighborhood Youth Corps provides part-time jobs for school attenders, a full-time work program for out-of-school youth, ages 16-20, and summer work programs. (It is estimated that, by August 1968, more than 1.7 million youths had been enrolled in this program initiated in fiscal 1965, although average enrollment periods were quite brief. During the summer of 1968, enrollment was over 360,000.)[59]

[59] The federal effort includes a considerable number of other manpower programs aimed at improving the employability of youth, such as publicity campaigns to encourage summer hiring and the financing of a number of interesting local endeavors (such as JOBS NOW and OIC) which have served as the inspiration for later, more *Antipoverty Work and Training Efforts*: *Goals and Reality*, No. 3 of the Policy Papers in Human Resources and Industrial Relations, a joint publication of the Institute of Labor and Industrial Relations, The University of Michigan, Ann Arbor, and The National Manpower Policy Task Force, Washington, D.C., August 1967; Garth L. Mangum, "Second Chance in the Transition from School to Work," paper prepared for Princeton Conference on Transition from School to

Programs involving direct hiring, such as the Neighborhood Youth Corps, have resulted in higher teenage employment, while training programs such as the Job Corps have reduced unemployment.[60] The magnitude of contribution of these programs depends on whether they merely provide employment or income during the enrollment period, no small contribution in itself, or whether they also raise the subsequent employability of teenagers. A growing literature[61] of evaluation suggests that manpower programs in varying degrees have had a beneficial carry-over influence on employment and earnings capacity. As of yet, however, no one has hazarded an estimate of their aggregate impact. Further, the absence of adequate control groups, the shortness of the follow-up period, and serious unsolved methodological problems mean that all evaluations must still be regarded as tentative.

On the basis of all the available evidence, higher teenage unemployment must be attributed to substantial increases in the supply of teenage labor and to very important changes in its quality. Between 1947 and 1953, the size of the noninstitutional population, ages 16-19, declined by 550,000 or 8 percent. Between 1953 and 1957, it increased by 300,000 or 8 percent; between 1957 and 1960, by 1.4 million or 15 percent;

Work, May 9-10, 1968; and annual issues of the *Manpower Report of the President and A Report on Manpower Requirements, Resources, Utilization and Training* by the U.S. Department of Labor.

[60] The expansion of the armed forces has also moderated the rise in teenage unemployment. The number of teenagers in the armed forces has risen from 405,000 in 1960 to 592,000 in 1967.

[61] See among others Sar A. Levitan, *op. cit.*; Garth L. Mangum, *op. cit.*; Gerald G. Somers, "Retraining: An Evaluation of Gains and Costs," in Arthur M. Ross, (ed.), *Employment Policy and the Labor Market*, (Berkeley: University of California Press, 1965); M. E. Borus, "A Benefit-Cost Analysis of the Economic Effectiveness of Retraining the Unemployed," *Yale Economic Essays*, (Fall 1964): Glen Cain and Gerald Somers, "Retraining Disadvantaged Workers," *Proceedings of a Conference on Research in Vocational and Technical Education*, June 10-11, 1966; and Daniel Mills, "The Evaluation of Manpower Training Programs," Discussion Paper No. 28, Program on Regional and Urban Economics, Harvard University, February 1968.

between 1960 and 1964, by two million or 19 percent; and between 1964 and 1966, by 1.4 million or 11 percent—with the increase slackening greatly in 1967. In 1953, 16-19 year olds accounted for 7.7 percent of the working-age population; by 1967, this percentage had risen to 10.5. These additional teenagers were all school attenders,[62] available only for part-time part-year jobs.[63]

The rise in school enrollment has aggravated the difficulties of adjusting to the increased supply of teenagers. It has not been sufficient for the economy to generate jobs which could be filled by teenagers. Most of these jobs had to be open to teenagers interested in working only weekends, after school, or in the summer. As school enrollment rates have risen, the ranks of the dropouts have been increasingly restricted to those who are less physically, mentally, or emotionally qualified. Under these circumstances, we would expect to find the unemployment of out-of-school youths rising relative to the experience of school attenders. However, the competition for part-time and part-year jobs, which are also sought after by the large number of adult women re-entering the labor market, has been sufficiently acute so as to lead to the opposite occurrence. In recent years the unemployment rates of school attenders have shown a decided upward trend relative to the unemployment of youth no longer in school.

[62] In October of 1947, only 28 percent of the teenage labor force was enrolled in school; but by October 1957, the proportion had risen to 50 percent; and by October 1966, to 58 percent.

[63] Statistics from the Bureau of Labor Statistics allow us to document various dimensions of this change in the quality of the teenage labor force. Between 1950 and 1965, the proportion of teenagers with work experience who worked year-round full-time fell sharply. The decline was from 7.8 to 1.8 percent among 14- to 17-year-old boys, from 25.0 to 14.9 percent among 18- to 19-year-old boys, from 2.6 to 1.2 percent among 14- 17-year-old girls and from 24.9 to 14.5 percent among 18- to 19-year-old girls. The increased supply of part-time workers has had its impact on the characteristics of the teenage unemployed. Between May 1957 and May 1964, teenage unemployment rose 59 percent among full-time workers and 210 percent among part-time workers. In 1967, part-time workers accounted for 51 percent of all teenage unemployment.

Further, the rise in school enrollments has increased the amount of frictionality.[64] Youth who in earlier periods would have entered the labor market on a full-time basis in their mid-teens were now likely to enter and re-enter several times during their school careers, each time running the risk of exposure to unemployment; Hugh Folk has noted the resulting intensification of seasonal unemployment:

> The seasonal increase in the [teenage] labor force from January to June increased during the post-World War II period . . . once again reflecting growing school enrollments. The seasonal increase did not exceed fifty percent before 1955 and did not fall below 50 percent thereafter. There was no trend in the seasonal increase of youth employment, rather it reached a peak in 1961 and

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[64] At first glance the frictionality argument may not appear overly imposing since the official statistics almost invariably show unemployment to be higher among out-of-school youths than among school attenders. However, there are four good reasons for suspecting that the official statistics are not adequately mirroring reality. First, the very high umemployment rates among out-of-school youths appear in conflict with statistics on the low proportion of youth experiencing long duration unemployment. It is possible that the two bodies of data are consistent, but if so the consistency certainly stands in acute need of demonstration. Second, labor force discouragement is far more prevalent among school attenders than among those not enrolled in school. Hugh Folk's correction for labor force discouragement for October 1966 raised the unemployment rate of 16- to 19-year-old male school attenders from 8.8 to 14.8 percent, while the unemployment rate of out-of-school youths was increased only from 10.3 to 11.7 percent. Third, the national probability sample reported on in the Miljus, Parnes, Schmidt, and Spitz study showed sharply lower unemployment rates for out-of-school youths and sharply higher unemployment rates for school attenders than does the CPS. Fourth, and most telling, the official statistics are available only for October of each year. October is a particularly unfelicitous month for gathering data to compare the labor market status of school attenders and out-of-school youths. School attenders account for most of the seasonality in teenage unemployment, and October is one of the months when teenage unemployment is at or near its seasonal low.

> thereafter decreased. As a result, the seasonal increase in youth unemployment was quite high in the middle 60's. Increased seasonality of the labor force certainly accounts for some of the increase in youth unemployment in recent years.[65]

The path which teenage unemployment can be expected to follow in the future depends on the relative contribution of increased frictionality and increased supply to the adverse time trends. To the extent that frictionality resulting from increased school enrollment has been a major contributor, higher teenage unemployment will persist unless more resources are devoted to an improvement of labor market organization. On the other hand, if the great increase in the supply of teenagers is the major source of the problem, there are grounds for being more hopeful. The labor market response to the augmentation of supply has occurred, with some time lag, and has been less than complete. This is hardly surprising, given the magnitude of the required changes and the fact that some incremental unemployment may be necessary to put downward pressure on relative wages and to set into motion the adjustment mechanisms which characterize free markets. The power, rather than the slowness or incompleteness of the adjustment mechanism, is what is important for gauging the future. The sharp increases in teenage employment during the 1960's, and the fact that teenage unemployment is currently only 1.7 percentage points above its 1955-57 levels, indicate this power (as well as the value of government programs for increasing the employment of youth).

Barring a new and perverse bent in technical change, or an adventure into more comprehensive and higher minimum wages, there will be far less need for flexibility in the future. The peak rate of growth in teenage population has passed. In 1967, persons, ages 16-19, accounted for 10.5 percent of the noninstitutional population. In 1970, they will account for

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[65] Folk, *op. cit.*, p. 69.

10.6; in 1975, for 10.7; and in 1980, for 10.1 percent of the non-institutional population.[66] Between 1958 and 1967, there was a significant substitution of teenage for adult labor, as the teenage share of total employment rose from 5.7 to 7.6 percent. Such substitution will not be necessary in the future, if we are to maintain the current teenage-adult unemployment and labor-force participation ratios.[67] It is only necessary that employment opportunities grow as rapidly for teenagers as for adults. To reduce teenage unemployment to the level prevailing in the early 1950's, teenage employment would have to grow more rapidly than adult employment, but the difference in rates would be considerably smaller than during the past decade. Although job competition from the growing number of persons in their early twenties or from increased labor-force participation by women may cause problems, the stabilization of the teenage-adult population ratio offers

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[66] Sophia Cooper and Denis F. Johnston, "Labor Force Projections for 1970-80," U.S. Department of Labor, Bureau of Labor Statistics, *Special Labor Force Report No. 49*, p. 130.

[67] Since the stabilization of the teenage-adult population ratio greatly reduces the need for substituting teenage for adult labor, it provides a basis for skepticism about somber projections of the following type:

> The forecast rate of growth of the youth labor force decreases in successive five-year periods. This suggests that at no time will the surge of youth into the labor force be as overwhelming as it was during the period 1960-65. A good thing, too, because this surge was the underlying cause of rising youth unemployment during the period. Nevertheless, the rate of growth during the coming years is uncomfortable enough. Even if employers have been reasonably successful in substituting youth for older workers in the past, there is no reason to expect that they can achieve the same success in the future. There are sound reasons to expect substitution to become harder, rather than easier, in the future and these include the increasing complexity of production processes, the continued shrinkage or relatively slow growth of teenage intensive industries and occupations, and the growth of large firms with rigid formal hiring systems, many of which almost automatically exclude youth under age 18 from employment . . . . The extraordinarily large unemployment rates of the least preferred groups of

substantial hope for a reduction in teenage unemployment. This states no more than that a slackening in the rate of growth of supply affords an opportunity for demand to catch up.[68]

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workers in the last few years and the large trends in these rates create grave doubts about the capacity of the competitive labor market to provide jobs in anything like sufficient numbers to lead to a reversal of the trends.

[68] For males and females, ages 16-17 and 18-19, the residuals for the correlations (shown in Table 9) of teenage unemployment with prime-working-age-male unemployment and time were positive and quite large for the 1963-65 period. The size of the residuals progressively diminished over this three-year period, and then turned negative in 1966 and 1967. This very hopeful development is attributable to the continuing adjustment of the labor market to changing supply conditions and to the operation of government programs for increasing the employment of youth, with the relative contribution of the two being an uncertain matter. The improvement in the position and size of residuals was large in 1966 and small in 1967. Since this contrasts with the increase in teenage population, which was large in 1966 and quite small in 1967, it raises some questions as to whether the catch-up process is actually under way. However, the effect of draft uncertainties on the hiring policies of employers and on the intensity of the job search conducted by teenage boys may explain the absence of a more marked improvement in 1967.

4

GAPS IN KNOWLEDGE

So much for the current state of knowledge. Despite the recent advances which we have summarized, we still lack an intellectually satisfying comprehension of how the labor market for younger workers functions and an adequate basis for an intelligent formulation of public policy. In this section, we will discuss some of the major deficiencies in knowledge and suggest areas where research is needed and seems feasible.

Carryover Effects of Early Experience

Labor force participation by persons in their teens and early twenties is of significance for two reasons. First, it contributes to the output of the society and provides current employment and income to persons desirous of both. Second, it presumably results in a significant amount of learning and acclimation.

> While many young people do not have family responsibilities, so that unemployment among them may be considered less serious than for older workers, their unemployment is nonetheless a matter for pressing concern since the initial labor-force years are those in which the experiences and work habits which serve as the foundation for a work career should be acquired.[69]

[69] Vera Perrella, "Employment of High School Graduates and Dropouts in 1963," U.S. Department of Labor, Bureau of Labor Statistics, *Special Labor Force Report Number 41*, p. 522.

At any moment of time, we have available a wealth of information on employment by detailed age-group, by sex, by color, and by educational status. This permits a continuing analysis of the success of young workers from various backgrounds have in securing employment and earnings. However, it tells us very little about the efficiency of the labor market as an institution for transforming novices into productive and flexible adult labor. We are not cognizant of the relationship between current labor market experience and subsequent adult performance. This gap in knowledge is of crucial importance since the desirability or undesirability of teenage labor market activity is perhaps best defined in terms of its impact on subsequent behavior.

Merely to enumerate currently unresolved questions is to indicate the severe limitations on knowledge which have resulted from reliance on moment of time data. For instance, is the fact that many teenagers experience unemployment on their initial job hunt necessarily a sign of labor market inefficiency? Unemployment may be an effective and inexpensive school in which teenagers learn the proper techniques of job search and come to recognize the need for adjusting the heart's desire to the realities of the market place. Then again, it may be a very poor and demoralizing school. Are high voluntary job turnover rates a useful means for obtaining work experience and skill and for probing job opportunities? Do they result in a realistic view of career opportunities, or are they an expensive substitute for a good counseling program, or are they simply an aimless experience? Should part-time and part-year work experiences of students be considered as useful vehicles for acquiring some income, but as being devoid of value for later vocational progress, or do these experiences provide useful training in work discipline, and in the manners and social customs involved in work relationships? Are the high layoff rates experienced by older teenagers simply demoralizing, or do they pointedly establish the relationship between education and income expectations and help shape personal decisions on the desired tradeoff between current self-denial and future income? Are periods of non-labor force participation for non-school attenders simply larks? Or are they test periods in which youngsters who lack middle-class values or who are emotionally unstable explore and ultimately reject the possibility of withdrawal from the system? Or are they experiences whose end result is a personality structure chronically prone to unemployment and idleness? Do various government programs for providing work and income to youngsters do just that and no more, or do they provide training and values which strongly influence subsequent labor market behavior?

Most generally, do phenomena which seem socially wasteful and economically inefficient, when viewed from the moment-of-time resource allocation perspective, acquire redeeming value when viewed as education experiences? Our knowledge on this subject is based on nothing more authoritative than casual observation. To go further, we need a series of longitudinal studies following a large sample of young workers as they make the transition from school to work.[70] The data generated by such studies will not always lead to unequivocal answers since various experiences will have different impacts on different people. It will, however, permit the sketching of school to work transition styles for whites, Negroes, graduates, and dropouts and lead to the isolation of experiences which proved beneficial or detrimental for these various subgroups.

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[70] The dearth of longitudinal information has been noted by other observers. For instance, Jeffry Piker writes:

> In terms of research method, there has been almost a total absence of longitudinal studies of entry into the labor force. In most cases, research has consisted of a single snapshot the investigator had of a single point in a respondent's life, with the future relegated to anticipation by the respondent or inference by the researcher. Using such a method, it is difficult to provide a sense of process and transition, of real movement along a path from one position to another. In reality, the entry job is the outcome of a long series of steps. The organization of the series largely determines which youths obtain which outcomes. Longitudinal analysis, not single snapshots, more clearly describes such organization.

Entry into the Labor Force: A Survey of Literature on the Experiences of Negro and White Youths, Institute of Labor and

Longitudinal studies will be particularly helpful in generating insight on the problems confronting economically disadvantaged teenagers. For instance, the considerable amount of statistical information currently available establishes conclusively that the employment and earnings experience of high school dropouts is markedly inferior to that of high school graduates, but they do not help in establishing the sources of this inferiority. Initially, dropouts experience higher unemployment and lower earnings and labor force participation rates than graduates, with differences being quite substantial.[71] The advantages associated with graduate status persist over a lifetime. However, the very marked differences shown initially are greatly moderated by the passage of time, as can be seen in Tables 11 and 12. The difficulties initially facing

Industrial Relations, (Ann Arbor: University of Michigan—Wayne State University, forthcoming) p. 275.

An important longitudinal research project is already underway, its initial results being summarized in the Miljus, Parnes, Schmidt, and Spitz paper. Beginning in 1966 and continuing for five years, Ohio State University and the U.S. Bureau of the Census are conducting annual interviews with a panel of 5,000 men, ages 14-24. "This study will explore the influence of economic, social, and psychological factors and health characteristics . . . on labor force behavior."

[71] For instance, 1966 high school graduates ages 16-24, not enrolled in college, had a labor force participation rate of 75.7 percent, and an unemployment rate of 14.2 percent in October 1966. In that month, 1965-66 school dropouts, ages 14-24, had a participation rate of 62.3 percent and an unemployment rate of 17.4 percent. In 1965, male graduates (who, two years earlier, had been out of school and in the 16-21 age span) were earning a median weekly salary of $99. Similarly situated dropouts were earning $62. See Elizabeth Waldman. "Employment of High School Graduates and Dropouts in 1966," U.S. Dept. of Labor, Bureau of Labor Statistics, *Special Labor Force Report No. 85*, p. A-5; and Vera C. Perrella and Elizabeth Waldman "Out-of-School Youth—Two Years Later," U.S. Dept. of Labor, Bureau of Labor Statistics, *Special Labor Force Report No. 71*, p. 864. It should be noted that comparisons are somewhat biased since dropouts tend to be younger and to have been out of school for a shorter period of time. Also, considering the small population, the sampling variability for dropouts must be quite large.

TABLE 11

Unemployment and Labor Force Participation Rates of the Population by Age and Years of School Completed, March 1964

Unemployment Rates (percent)

Years of School Completed	Total. 18 Years of Age and Over	18-19 Years of Age	20-24 Years of Age	25-34 Years of Age	35-44 Years of Age	45-54 Years of Age	55-64 Years of Age
High School:							
1-3 years	7.2	18.3	14.1	6.7	5.9	5.1	4.8
4 years	4.8	12.2	7.6	4.6	3.4	3.2	3.4
Labor Force Participation Rates (percent)							
High School:							
1-3 years	60.8	48.5	59.4	64.4	69.9	71.9	62.2
4 years	63.8	56.1	70.3	62.0	66.3	73.7	64.0

Source: Denis F. Johnston, "Educational Attainment of Workers, March, 1964," U.S. Department of Labor, Bureau of Labor Statistics, *Special Labor Force Report No. 53*, p. 519.

the dropout definitely do not lead, for very many, to a lifespan of chronic unemployment.[72]

Why are the differences in experience between graduates and dropouts so marked at first, and why, then, do they narrow? Possessing less education and presumably being eligible

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[72] "A group of young men who had been interviewed in a nationwide sample study of the early work experience of out-of-school youth were resurveyed in February. 1965, to assess the relative progress of the dropouts and graduates. At the time of the first survey in February, 1963, the men were 16 to 21 years old and no longer enrolled in regular school. The group included school dropouts and high school graduates but excluded those who were college graduates." In 1963, the dropouts had a participation rate of 88 percent and the graduates of 93.6 percent; by 1965, the participation rate for both groups was 95.3 percent. In 1963, the unemployment rates were respectively 26.0 and 12.1 percent; in 1965, they were 17.7 and 3.2 percent.

Perrella and Waldman, *op. cit.*, pp. 860-862.

TABLE 12

Employment Status of Male High-School Graduates and Nongraduates Ages 16-24, Not Enrolled in School by Year of Graduation or Last School Attendance, October 1962

(percent)

	Civilian Labor Force Participation Rates		Unemployment Rates	
Years of Graduation or Last Attendance	High-School Graduates, 16-24, Not Enrolled in College	High-School Dropouts, 16-24, Not Enrolled in School	High-School Graduates, 16-24, Not Enrolled in College	High-School Dropouts, 16-24, Not Enrolled in School
1962	90.8	84.9	14.3	27.1
1961	95.7	81.9	6.6	15.1
1960	96.3	86.6	11.3	18.1
Prior to 1960	97.7	95.9	5.2	10.7

Source: Jacob Schiffman, "Employment of High School Graduates and Dropouts in 1962," U.S. Department of Labor, Bureau of Labor Statistics, *Special Labor Force Report No. 32*, p. A-6.

for less desirable jobs, do dropouts tend to be more prone to voluntary mobility? Studies indicate that dropouts are lower school achievers, have less prior work experience and may be less energetic than graduates.[73] Do they conduct their job hunt less intelligently or more haphazardly than graduates? Some psychologists maintain that the ranks of the middle-class white dropouts are dominated by the emotionally and socially maladjusted. For instance, on the basis of a study of 105 middle-class adolescents of at least average mental ability referred to them by the Chicago public high schools as potential dropouts, investigators concluded that early school-leaving is often associated with emotional and personality disturbances in the students:

> . . . except for those subcultural groups in which education is not an important value, the student

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[73] See Daniel Schreiber, "The Dropout Problem," in Garth L. Mangum (ed.), *The Manpower Revolution: Its Policy Consequences*, (New York: Doubleday & Company, Inc., 1965).

> of normal intelligence who cannot perform adequately in school and consequently drops out is almost always a student with emotional problems . . . somewhat unexpected was the severity of the emotional and personality distrubances . . . .[74]

Is the early experience of high unemployment and low labor-force participation a reflection of this maladjustment? Or could it be that dropouts, possessing fewer of the personality attributes and skills found desirable by employers, are eligible for fewer jobs than other workers? Having a lower probability per unit of time of finding employment, they experience higher unemployment than graduates on entering the labor market. This inherent disadvantage may persist over a lifespan, but differences in unemployment and labor-force participation will nonetheless narrow over time as more and more dropouts ultimately find full-time employment.

Each of these explanations isolates a factor which may inhibit a smooth transition from school to work for some dropouts. However, a longitudinal study of the labor market problems and responses of dropouts and graduates is necessary before we can determine which explanations are quantitatively important.

Motivation, Reservation Wages, and the Job Hunt

During periods of high unemployment it has been traditional for those skeptical of the wisdom of full employment policies to transfer their skepticism to the unemployment rate and to argue that many of the unemployed either are not diligently seeking work or else do not need employment. In the past, such arguments have been properly dismissed by social scientists on the grounds that short-run changes in the enthusiasm for work are not likely to be so abrupt as to cause significant fluctuations in unemployment. The fact that concern over motivation has normally had a red-herring flavor should not, however, deter a needed investigation of the relationship between psychological set and teenage unemployment.[75] Joblessness among younger workers represents such a high proportion of total joblessness when the economy is operating near capacity, that its causes and its susceptibility to cure by fiscal-monetary and labor market policy must be fully explored in order to provide the background knowledge necessary for adequate selection of a target unemployment rate.

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[74] Solomon O. Lichter, Elsie B. Rapien, Frances M. Seibert, and Morris Sklansky, *The Drop-Outs—A Treatment Study of Intellectually Capable Students Who Drop Out of High School* (Glencoe, Ill.: The Free Press, 1962), p. 132.

Young workers are likely to be more casual about the job hunt than adults. Most married men, particularly those with children, are under considerable financial and psychological pressure to find and maintain employment. Income is required for food, clothing, rent, and other amenities. These pressures not only lead to high labor force participation but, presumably, also foster the willingness to hunt expeditiously for employment and to be realistic about wage and working condition requirements. The incentive to earn income is not as strong for most married women, but neither is the compulsion to remain in the labor market. If their own desires to work are lukewarm or if a job which meets their requirements is not readily available, permanent or semipermanent withdrawal from the labor force is a feasible option. The situation confronting teenagers is quite different. The attractiveness of large units of leisure may be greater than for adults because of an inherently superior ability to pursue and enjoy leisure-time activities. The work ethic may be weaker for some teenagers than it generally is among middle-class adults. Referring to out-of-school and unemployed teenagers, Charles Silberman writes:

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[75] Earlier we found that labor force entry and re-entry are the major causes of teenage unemployment, and that the average duration of such unemployment is short. There is no inconsistency between these findings and concern over motivation and the realism of asking wages. It is possible that with a different motivational and perceptional set, more teenagers would go directly from outside of the labor force to employment, avoiding any intervening unemployment experience, that for others, the average duration of unemployment would be shorter, and that still others would interrupt a siege of unemployment by obtaining a job rather than exiting the labor market only to re-enter subsequently.

The duration of teenage unemployment is short relative to adult experience, but adult experience may be a highly inappropriate measuring rod. Teenagers are more likely than adults to move from unemployment to out of the labor force. They are more likely to be hunting for part-year and part-time jobs where employer concern over labor quality is at a minimum. They are less likely to have entered unemployment through layoff and are thus less likely to have residual ties with prior employers which inhibit job hunting.

> Many of them appear to be unemployable: they are—or seem to be—uninterested in working, unwilling or unable to adjust to the routine and discipline of a job, and generally apathetic, sullen or hostile . . . teenagers also lack the psychological pressures that make the great majority of adult men prefer work to idleness . . . holding down a job is not necessarily a source of status, nor is unemployment a source of shame. On the contrary, in at least some city slums, teenage society displays a certain disdain for legitimate work.[76]

Certainly most youngsters find themselves relatively free of the economic compulsions facing adult men. They are guaranteed at least a minimal level of financial support, irrespective of their own efforts. At the same time, parental pressures and their own career ambivalences may rule out the option followed by many women of withdrawal from the labor force for a protracted period of time. Teenagers may consequently remain in the labor force but conduct job search in a highly dilatory fashion or insist on unrealistically high wages.[77] In this instance, the relationship between marriage and labor force experience is quite revealing. Marriage explains an important portion of the inter-city variance in teenage employment.[78] The unemployment rate falls substantially with marriage. The unemployment rate of boys, ages 18-19, married and with wife present, was 8.5 percent in 1962 and 6.1 percent in 1963. For single boys of this age, the unemployment rate during these two years was 14.5 and 16.8 percent.[79] For married men, ages 20-24, the unemployment rate in recent years has been only about 40 percent as high as for single men.

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[76] Silberman, *op. cit.*

[77] Numerous observers have noted that some teenagers prefer unemployment to uninteresting work paying $1.00 or $1.25 an hour. See, for instance, Joseph D. Mooney, "Teenage Labor Problems and the Neighborhood Youth Corps" in Frederick H. Harbison and Joseph D. Mooney, *Critical Issues in Employment Policy*, (Princeton: 1966) and Charles E. Silberman, "Beware the Day They Change Their Minds!" *Fortune*, November 1965.

> Unless one assumes that only the most presentable, best educated and most employable men in their early twenties are married–not a safe assumption at any age but most indefensible for this group–one must conclude that family responsibilities force men to take and stay with available jobs and eliminate some of the voluntary jobseeking that is reflected in the overall unemployment rate.[80]

A relaxed attitude toward finding employment can express itself in many fashions–in sporadic periods of non-labor force participation, in following up only a limited number of job leads, or in using only a limited number of job search techniques. How many youngsters hunt for jobs but in a fashion more designed to appease their parents than to secure employment? How many youngsters enter the labor market with a high set of wage and working condition reservations, and then depart if these conditions are not met, only to reenter some time later? How many youngsters begin a job hunt in late May with an actual preference for finding a job in July and vary their intensity of hunt and asking wage accordingly? Anyone who has had experience with younger persons,

[78] Edward Kalachek, "Determinants of Teenage Employment," *Journal of Human Resources*, Winter, 1969.

[79] Vera C. Perrella, "Marital and Family Characteristics of Workers in March 1965," U.S. Department of Labor, Bureau of Labor Statistics, *Special Labor Force Report No. 50*, p. 262.

[80] Gertrude Bancroft, "Lessons from the Pattern of Unemployment in the Last Five Years," in R. A. and M. Gordon (eds.), *Prosperity and Unemployment*, *op. cit.*, p. 202-203.

or been one himself, is aware of the existence of these behavior patterns.

In a labor market where job openings are limited, it would hardly be surprising to discover that the early bird got the worm. We are not interested here in the characteristics of early and late birds. The question is not even whether some teenagers are dilatory in their job pursuit, but whether, under full employment circumstances, this dilatoriness is an important explanation of the high rate of teenage unemployment? The motivation of two groups—Negroes and dropouts—merits special probing. Here, the presence of startlingly high unemployment rates comes in combination with participation rates which are suspiciously low and with a variety of suggestive evidence on low motivation.

What clearly is required are in-depth studies of the manner in which different groups of young workers conduct their job search, with particular emphasis on the intensity of search. Measures of socio-psychological set should be correlated with job search tactics and success.[81] Such studies would be a major step toward either quieting doubts about lassitude or establishing that there is a socio-psychological component of unemployment which does not fit too neatly into the frictional category, is not too amenable to policy measures and, except for nonwhites and dropouts, may not be too much cause for concern. It is also worth investigating whether rising family incomes, increased welfare payments, and the demonstration effect of television have resulted in some teenagers insisting on unrealistically high wages as a precondition for accepting employment. Reservation wages rising more rapidly than teenage productivity are a possible explanation for some of the increase in teenage unemployment.

[81] On the basis of a recent study of job search behavior in Erie County, Penna., Sheppard and Belitsky have argued for the existence of a relationship between certain socio-psychological characteristics and job search behavior. Specifically, their data suggest that workers with high achievement motivation will, upon becoming unemployed, commence search earlier, employ more job search techniques, search more widely and more intensively, and experience a shorter duration of unemployment. See Harold L. Sheppard and A. Harvey Belitsky, *The Job Hunt*, (Baltimore: The Johns Hopkins Press, 1966).

If so, we have again isolated a component of reported unemployment which will not be easily treated with currently available policy instruments.

It should be emphasized that references to low levels of motivation or to unrealistically high reservation wages are meant to be descriptive rather than pejorative. There is nothing reprehensible about teenagers refusing to work at low wages or in unpleasant jobs or searching for employment in a haphazard fashion because they expect that the employment which they ultimately find will be relatively undesirable. It is best to know, once and for all, whether the observations on low motivation and unrealistically high real wages are based on a relatively few lurid cases, or whether they are pointing to a quantitatively important cause of high teenage unemployment.

It should also be emphasized that the socio-psychological component of unemployment among nonwhites and dropouts may be the occasion for very serious concern. Reports of operating manpower agencies stress the importance of attitudinal factors apparently more perverse and deeply rooted than those discussed above. Clients drawn from these groups are frequently characterized as alienated, discouraged, immature, lacking self-esteem, and not conversant with accepted middle-class work values. Counseling, efforts at building self esteem, and emotionally supportive services are cited as essential elements in improving employability.[82]

Nonwhite Unemployment

Unemployment rates reported for nonwhite teenagers are incredibly high.[83] Labor-force participation rates are disturbingly low. Table 13 shows these rates for 1967 and

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[82] In particular, see the illuminating set of experimental and demonstration project reports of the Office of Manpower Evaluation and Research of the U.S. Department of Labor. Again, the interesting and unresolved question is how large is the population to which these characteristics are applicable.

[83] There are very good reasons for believing that both the decennial census and the Current Population Survey underestimate population size, with the magnitude of the error being particularly large for

TABLE 13

Unemployment and Labor-Force Participation Rates by Color, 1967

(percent)

Sex and Years of Age	Unemployment Rates		Labor-Force Participation Rates	
	White	Nonwhite	White	Nonwhite
Males				
16-17	12.7	28.9	47.9	41.2
18-19	9.0	20.1	66.1	62.7
20-24	4.2	8.0	84.0	87.2
Females				
16-17	12.9	32.0	32.3	22.8
18-19	10.6	28.3	52.7	48.7
20-24	6.0	13.8	53.1	54.9

Source: U.S. Department of Labor, Bureau of Labor Statistics, *Employment and Earnings* and *Monthly Report on the Labor Force*, January 1968.

nonwhites. Measured unemployment and labor force participation rates will differ from the true rates if the average labor force experience of the excluded population differs from the experience of the covered population. Underestimation, however, is far less of a problem among teenagers than among other age groups. According to Jacob S. Siegal, the nonwhite male population was underestimated by 16.8 percent in 1965 and the nonwhite male teenage population by 7.3 percent; the nonwhite female population was underestimated by 8.8 percent and the nonwhite female teenage population by 5.2 percent. (See "Completeness of Coverage of the Nonwhite Population in the 1960 Census and Current Estimates, And Some Implications" in David M. Heer, (Ed.) Social Statistics and the City, [Cambridge: Harvard University Press, 1968].) Given the modest size of this underestimation, the measured unemployment rate for nonwhite teenagers should not differ too strongly from the rate which would have been recorded if the entire population had been adequately covered. For instance, the unemployment rate for nonwhite male teenagers was 23 percent in 1965. If the unemployment rate for the excluded population were as high as 50 percent, then the true unemployment rate for the entire pertinent population would be 25 percent, only two percentage points higher than the reported rate.

compares them with the experiences of whites of similar age and sex. The fact that nonwhites and teenagers are at the back of the hiring queue—and nonwhite teenagers at the very back—has been adequately demonstrated.[84] Unemployment among nonwhite teenagers could thus be expected to be very high during periods of economic slack. During 1967, however, labor markets were relatively tight, and the overall unemployment rate was only 3.8 percent.

The employment and unemployment record of nonwhite teenagers has not always been so adverse during prosperity periods as it was in 1967. Rather, the 1967 experience is the culmination of two decades of serious deterioration. The labor force participation rate for boys, ages 16-17 declined from 51.2 in 1948 to 47.9 in 1967 among whites and from 59.8 to 41.2 percent among nonwhites. The decline for boys, ages 18-19 was from 76.2 to 66.1 among whites and from 77.8 to 62.7 among nonwhites.[85] The adverse trends in the unemployment experiences of nonwhite youngsters are summarized in the correlations shown in Table 9. The unemployment of nonwhite teenagers was correlated with the male prime-working-age unemployment rate and a linear time trend. Time trends were statistically significant and considerably larger for nonwhite than for white teenagers. Unemployment among nonwhites tended to increase by 1.12 percentage points a year for 16- to 17-year-old boys, by .74 of a percentage point for 18- to 19-year-old boys, by 1.47 percentage points for 16- to 17-year-old girls, and by 1.01 percentage points for 18- to 19-year-old girls. It is quite likely that these time trends are partially spurious. the Department of Labor does not make absolute numbers on employment, unemployment, and labor force by color available prior to 1954, because population controls by color were not introduced into the Current Population Survey until that year. The data for years prior to 1955 should thus be taken with several large grains of salt.[86] However, as can be seen in Table 14, the rise in unemployment rates since 1955 is still of awesome proportions. (Though the absolute numbers involved are not. If nonwhite teenage unemployment rates in 1967 were still at their 1955 level, total unemployment would be only 79,000 lower).

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[84] Lester Thurow found that the employment of nonwhite teenagers could be explained by lagged changes in white teenage employment and unemployment, and by the ratio of the nonwhite to the white teenage labor force. The elasticity (evaluated at the mean) of nonwhite teenage employment with respect to white teenage employment was .8. A one percent reduction in unemployment among nonwhite teenagers resulted in a 0.9 percent gain in employment among nonwhite teenagers. If induced increases in the size of the labor force from lower unemployment are ignored, a one percent increase in white teenage employment results in an increase of 1.5 percent in nonwhite teenage employment. "Employment Gains and the Determinants of the Occupational Distribution of Negroes," paper presented to a conference on The Education and Training of Racial Minorities, The University of Wisconsin, May 12, 1967, pp. 9-12.

[85] The participation rate for white girls was basically unchanged over this period. The participation rate declined from 29.1 to 22.8 percent for nonwhite girls, ages 16-17, and rose from 41.2 to 48.7 percent for nonwhite girls, ages 18-19.

The immediate cause of higher nonwhite teenage unemployment is to be found in the inadequate growth of nonwhite teenage employment. Between 1955 and 1967, the white teenage labor force grew by 59.8 percent and white teenage employment by 58.5 percent. Over this same period the nonwhite teenage labor force grew by 55.8 percent, but nonwhite teenage employment increased by only 36.4 percent. It is generally accepted that differences in the quantity and quality of education and racial discrimination result in white teenagers having better access to employment opportunities than nonwhite teenagers. But why should nonwhite teenagers have fared so badly in obtaining employment during a decade marked by an increase in their educational attainment and by a decline in the taste for discrimination? And why has the deterioration been sharpest among girls? Why has it been so localized, for instance, having such a relatively moderate effect on nonwhites, ages 20-24 (see Tables 9 and 14)?

Educational imbalances, the suburbanization of industry, rising reservation wages, and employer selectivity have all been advanced as possible explanations.[87] Each explanation

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[86] It would also be worth investigating whether the diminishment of errors of measurement through the great strengthening of the labor-force survey sample in the years since may not have had a disproportionate impact on reported totals for nonwhites.

[87] In addition, the migration from South to North and from rural to urban areas may well have had an important effect. The ability or

TABLE 14

Unemployment Rates by Color, 1955 and 1967

(percent)

Sex and Years of Age	White		Nonwhite	
	1955	1967	1955	1967
Males				
16-17	12.2	12.7	14.8	28.9
18-19	10.4	9.0	12.9	20.1
20-24	7.0	4.2	12.4	8.0
Females				
16-17	11.6	12.9	15.4	32.0
18-19	7.7	10.6	21.4	28.3
20-24	5.1	6.0	13.0	13.8

Source: U.S. Department of Labor, Bureau of Labor Statistics, *Employment and Earnings*, January 1956 and January 1968.

merits brief elaboration. First, it is sometimes asserted that the gap between the effective educational attainment of white and nonwhite teenagers has been widening. However, if growing educational disadvantage were the culprit, there should also be deterioration in the relative experience of nonwhites, ages 20-24.[88] Second, a considerable amount of the employment traditionally available to nonwhite teenagers in urban

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willingness to discriminate with respect to wage rates is greater in the South, and this results in smaller interracial differences in unemployment there than in the North. See H. J. Gilman, "Economic Discrimination and Unemployment," *American Economic Review*, December 1965. Further, Negro teenagers were acceptable for farm labor in the South, and a very high percentage of the Negro teenage labor force was so employed even as late as 1960. In contrast, urban employers have never been large users of Negro teenagers except in some types of domestic service. Insofar as Negro teenage employment opportunities are concerned, all of the other favorable developments of the past decade may have been more than offset by the foreclosure of the one activity where jobs were readily available.

[88] Eleanor Gilpatrick suggests that: "The gap between the least prepared youth and the minimum qualifications for the least demanding occupation is widening under the impact of technological

centers has been of a casual nature and in service and trade activities. Retail trade centers are migrating outward as are the middle- and upper-income families who are the major employers of lower-paid service workers. Virtually all nonwhites who live in metropolitan areas reside in the central city. Since much job information is obtained through informal channels, distance from the potential work site will significantly reduce awareness of job opportunities. Further, suburban work sites are serviced poorly, if at all, by public transportation, and commuting frequently is both expensive and time consuming. This will deter job hunting unless the prospects for success are considered to be relatively good and, in instances where jobs are found, may reduce the effective hourly wage to below the acceptance level. Third, many of the jobs traditionally available for nonwhite teenagers have undesirable characteristics or pay low wages. It is possible that the civil rights movement, enlarged welfare programs, and rising expectations may have resulted in a reticence to work in the occupations or at the wages at which employment is available. Possibly, nonwhite girls may have been more affected by abhorrence of menial tasks and by commuting problems than have nonwhite boys. Finally, the poor showing of nonwhites "can be explained quite directly as a result of the 'glut' of younger workers and of employer selectivity . . . among job seekers. The result of this is the proportion of jobs going to youths does not equal the proportions that the groups make up of the total youth labor force. The jobs that are available are disproportionately filled by preferred groups of younger workers."[90]

change," *Structural Unemployment and Aggregate Demand* (Baltimore: The Johns Hopkins Press, 1966), p. 224. If so, it is hard to see how several years during the teens spent to a considerable extent outside of school and outside of the labor force or in the labor force but unemployed raises a man's qualifications so that he is eligible for relatively steady employment at age 20.

[89] See Edward Kalachek, "Ghetto Dwellers, Transportation and Employment," paper prepared for the Transportation and Poverty Conference of the American Academy of Arts and Sciences, Boston, June 7, 1968.

[90] Hugh Folk, *op. cit.*, p. 72.

Given the current state of knowledge, we can only speculate on the relative contribution, if any, of each of these factors to higher unemployment among nonwhite teenagers. To proceed further, information on the comparative skills, job histories, motivation, reservation wages, and job search techniques of both white and nonwhite teenagers would be required. Once again, the information needed for the formulation of labor market policy can best come from longitudinal studies.

The Structure of Employment

In the past, the growth in teenage employment opportunities has been forecast by projecting growth in teenage intensive industries under the assumption of rigid teenage-adult coefficients of production. Our review of the literature confirms the heavy concentration of teenage employment in a limited number of activities but suggests that this traditional methodology is devoid of value. The relationship between the occupational and industrial structure and the availability of employment opportunities for younger workers has been little explored and, given the inadequacy of the traditional forecasting methodology, is in great need of clarification.

Even when teenage intensive industries are defined at quite disaggregated levels, teenagers generally still constitute only a small fraction of their work forces. In such activities, do most adults work at a higher position in the skill and responsibility hierarchy, or do a large proportion perform the same type of work functions as teenagers? Any patron of variety stores or movie theatres is well aware of the fact that adults and teenagers are highly substitutable on some jobs and frequently work side-by-side. If this high degree of substitutability is present throughout most teenage intensive activities, the number of jobs potentially available to teenagers may be several magnitudes larger than the teenage population.

In order to fully identify the demand for teenage labor, we need to know more both about the number of jobs for which teenagers and adults are considered close substitutes and also about the specific adult groups who are in closest competition with teenagers. When, for instance, employers contemplate hiring a teenage girl, who is the closest competitor for the job—a woman in her early twenties, a middle-aged housewife, an older man? In what other industries and occupations do these competitive groups normally find employment?

A combination of technological, institutional, and economic conditions results in some firms being willing to hire teenagers, while others are not. Since the factors which determine how hospitable a particular activity is to teenagers vary over time, their identification is a prerequisite for predicting changes in the demand for teenage labor. What is the impact on teenage employment of changes in the adult-teenage wage ratio resulting from changed supply availability, of changes in skill requirements due to technical advances, of changes in minimum wage laws, or of higher negotiated port of entry wages which permit employers access to high quality labor for low-skilled work? These questions can probably best be answered by studies conducted at a disaggregated level. One hopeful approach is to examine census records, identify those three- and four-digit activities where the ratio of teenage to total employment has fluctuated markedly over time, and then conduct historical studies of the causes of such fluctuations.

Labor Market Organization

If fully investigated, the research areas we have identified so far would provide considerable information on the need for improvement in the organization of the youth labor market. Such information can provide guidance on the direction in which policy should veer, but it cannot provide guidance about the size or kind of remedial programs which would be most appropriate. As it is, we have some good reasons for the belief that labor market policy could be improved, but little knowledge of the specific measures which would have the highest social productivity.

Recent years have witnessed a substantial expansion of government programs designed to provide work experience and income for students, and to smooth the transition to full-time employment for otherwise handicapped school leavers.[91] With the exception of college graduates, however, the labor market for younger workers in the United States is still not well organized. Most students acquire work experience and adjust to full-time employment without receiving substantial formal assistance from public agencies. Vocational guidance and job placement are excellent illustrations of this point. Information flows are haphazard. Youngsters rely heavily on informal sources in the formulation of career objectives and in job-hunting. Only four out of ten youths who had attended high school said they had received any guidance from a school official or from a state employment office about the kind of training they should have or the kind of work they should look for after leaving school.[92] Approximately 70 percent of all high-school graduates obtained their first full-time job through friends or relatives or by direct application. Only 15 percent received a job to which they were referred by the

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[91] The most comprehensive description and evaluation of government policies and institutions designed to assist those who are not making a successful transition is found in Garth L. Mangum, "Second Chance in the Transition from School to Work," paper prepared for the Conference on the Transition from School to Work, Princeton, May 9-10, 1968.

[92] The school is far more important as a source of guidance than the Employment Service, as is shown below:

Source of Job Guidance	Dropouts	Graduates
Total	100.0	100.0
Received Guidance	22.4	56.1
School Only	17.1	37.8
Employment Service Only	4.2	4.9
School & Employment Service	1.0	13.4
Did Not Receive any Guidance	77.6	43.9

Source: Thomas E. Swanstrom, "Out of School Youth, February 1963-Part II," U.S. Department of Labor, Bureau of Labor Statistics, *Special Labor Force Report No. 47*, p. 1417.

school or the state employment office.[93] Dropouts utilized formal channels even less. There is a similarly heavy reliance on informal channels for finding summer employment.[94] For many youngsters informal techniques are adequate, indeed even optimum.[95] For others, they are clearly inadequate. However, even those youths who are poorly served by reliance on informal guidance tend to be dubious about the value of existing formal services.[96]

In general, other advanced industrial countries have better developed formal techniques, have devoted more thought, and allocated relatively more resources to facilitating the transition from school to work. Most such countries have substantial vocational guidance and job placement services for youth. There is greater emphasis on vocational education and on formal apprenticeship or on-the-job training programs for school leavers. Further, in some countries, lower statutory wages for youths provide employers with hiring incentives. Teenage unemployment is considerably lower in these other industrial countries than it is in the U.S. It is reasonable to assume that better labor market policy is one of the explanations for this better record. However, a host of other influences are also at work. Most other industrial countries have had lower rates of increase in the teenage population and tighter labor markets over the past decade. They generally utilize different techniques for enumerating unemployment. Their teenagers are purported to have lower aspiration levels, and they do leave school at an earlier age.[97]

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[93] A similar heavy reliance on friends and relatives, and on direct application—within a ten-block range of their homes—was found in a study of labor-market choices by Detroit high-school graduates. See Larry D. Singell, "Some Private and Social Aspects of the Labor Mobility of Young Workers," *The Quarterly Review of Economics and Business*, Volume 6, No. 1.

[94] See Allan B. Mandelstrom & Rudolph C. Blitz, "Summer Employment of Students: A Local Study," *Industrial Relations*, May 1967. Interestingly, they found that parents' income played an insignificant role in explaining either summer employment or income derived from that employment, although almost all of the summer jobs were obtained through family connections. "It is our impression that insomuch as casual employment with limited responsibilities is involved, the family connections need neither be confined to the very wealthy nor to those cases where the connection is very strong."

[95] Two-thirds of all school leavers who were looking for work either had a job waiting or found one in less than five weeks of leaving school. See Vera C. Perrella and Forrest A. Bogan, "Out-of-School Youth, February 1963," U.S. Department of Labor, Bureau of Labor Statistics, *Special Labor Force Report No. 46*, p. A-12.

[96] "It is clear however, that the State Employment Service is not the first place a dropout looks for a job. Dropouts visit the university, hospitals, bowling alleys, restaurants, gas stations, department stores, grocery stores, theatres, cemeteries, and construction crews looking for work. The State Employment Service appears to be one of the last stops for dropouts, or one of a series of return trips when they might be lucky and find a job." Ira E. Harrison, "The State Employment Service and the Attitudes of 'Unemployable' Dropouts," *The Journal of Negro Education*, spring 1966.

The large majority of American teenagers successfully negotiate the transfer from school to work. A minority does not, and its plight is the occasion for legitimate concern. Even those defined as successful negotiators may suffer unnecessary spells of unemployment or make job changes – occupational choices which, in the light of additional information, would seem to be unwise. European and Japanese experience suggests that it might be advantageous to extend the range of labor market services provided to youngsters in the United States and to increase public expenditures devoted to smoothing the transition from school to work. However, the evidence generated by the experience of other countries is, at best, suggestive. It provides no hints on the rates of return to alternative policies. We are at sea when it comes to determining the absolute and relative advantages of significant investment in job counseling services, in placing increased emphasis on vocational education, or in establishing youth placement bureaus closely allied to the schools. Past experience suggests that government action programs by themselves will neither fully solve the transition from school to work problem nor supply all of the information needed for ultimate solution. Highly successful policy intervention requires a richer research base than we currently possess. On the other hand, pertinent research cannot be conducted unless government action programs generate the appropriate data. What is needed is a number of specially designed pilot programs. These programs should be viewed both as efforts to cope with current teenage labor market problems and as environment probes designed to create the data necessary for a better analysis of the merit of the program and of its most fruitful nature and size.[98] For adequate evaluation, it is imperative that a data-collecting scheme be an integral part of the original program design and that procedures for evaluation, rather than being appended as an afterthought, should be fully integrated with the program.

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[97] See Franz A. Groemping, "Transition From School to Work in Selected Countries," and Joseph Zeisel, "Unemployment of Youth in Great Britain and the United States," both papers prepared for the Conference on the Transition from School to Work, Princeton, May 9-10, 1968; and Edward Kalachek and Richard Westebbe, "Rates of Unemployment in Great Britain and the United States, 1950-60," *The Review of Economics and Statistics*, November 1961.

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[98] For an example of how ongoing labor-market programs can be evaluated in a sophisticated manner in the absence of a well integrated formal data gathering and evaluation system, and also for an illustration of the severe information deficiencies which result from this absence, see Sar A. Levitan, *Antipoverty Work and Training Efforts: Goals and Reality, op. cit.* The rationale for integrating formal evaluation systems with pilot action programs is developed in Richard R. Nelson, Merton J. Peck and Edward D. Kalachek, *Technology, Economic Growth and Public Policy*, (Washington: 1967), The Brookings Institution, pp. 171-177. For an example of the types of insights which can be gained at relatively low cost from experimental pilot programs lacking formal statistical controls, see the Experimental and Demonstration Project Reports of the Office of Manpower Policy, Evaluation and Research of the U.S. Department of Labor.

APPENDIX

Time series data on adult and teenage wage rates are not available, but the Bureau of the Census does collect data on total money income of persons by age and sex group. These data, shown below, are particularly difficult to interpret insofar as teenagers are concerned, since earnings will be affected by the continuing trend toward school enrollment and consequently toward part-time and part-year work, by the changing age composition of the group, and by sensitivity to changes in the level of demand. Further, the number of teenage, year-round full-time workers is quite small, and hence annual data for this group are subject to unusually large sampling variation. Given these caveats, the data indicate a significant decline during the past decade in the ratio of teenage to adult earnings.

Median Income of Year-Round Full-Time Workers

Year	Males, 14 Years of Age and Over	Males, Ages 14-19	Ratio of Teenage Male to All Male Income	Females, 14 Years of Age and Over	Females, Ages 14-19	Ratio of Teenage Female to All Female Income
1956	$4462	$1954	44	$2828	$2228	79
1957	4720	1648	35	3006	2315	77
1958	4948	1833	37	3101	2358	76
1959	5242	1740	33	3205	2350	73
1960	5435	1974	36	3296	2450	74
1961	5663	1938	34	3342	2293	69
1962	5826	2146	37	3458	2733	79
1963	6070	2221	37	3557	2933	82
1964	6283	2364	38	3710	2830	76
1965	6479	2074	47	3883	2809	72
1966	6955	2420	35	4026	2827	70

Median Income of All Persons With Income

Year	Males, 14 Years of Age and Over	Males, Ages 14-19	Ratio of Teenage Male to All Male Income	Females, 14 Years of Age and Over	Females, Ages 14-19	Ratio of Teenage Female to All Female Income
1956	$3608	$412	11.4	$1146	$413	36.0
1957	3684	411	11.2	1199	388	32.4
1958	3742	384	10.3	1176	370	31.5
1959	3996	411	10.3	1222	380	31.1
1960	4081	412	10.1	1262	388	30.8
1961	4189	399	9.5	1279	373	29.2
1962	4372	401	9.2	1342	385	28.7
1963	4511	406	9.0	1372	375	27.3
1964	4647	423	9.1	1449	384	26.5
1965	4824	456	9.4	1564	395	25.3
1966	5306	496	9.3	1638	423	25.8

Source: Various issues of U.S. Department of Commerce, Bureau of the Census, Current Population Reports, *Consumer Income*.

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